
SAN FRANCISCO, CA
MAY 18-22, 2013
PURSUING WELLNESS ACROSS THE LIFESPAN
166TH ANNUAL MEETING
AMERICAN PSYCHIATRIC ASSOCIATION
American Psychiatric Association
POSTER ABSTRACTS
© Jeremiah Fisher

Poster Abstracts
American Psychiatric Association
2013 Annual Meeting

Sessions 1 & 2
Resident/Medical Student Competition Posters

This is an “open invitation” format where medical students and residents attending the Annual Meeting are encouraged to present one (1) poster of their choice in one of four research and non-research competition categories:

A Community Service
B Curriculum Development and Education
C Patient Care and Epidemiology
D Psychosocial and Biomedical

The editors of the journal *Academic Psychiatry* review abstract submissions and view the posters at the time of presentation. First and runner-up awards are presented in each of the four categories.

Session 3
International Poster Session

This is an “open invitation” format inaugurated by APA President Dilip Jeste, M.D., where international attendees of the Annual Meeting are encouraged to present one (1) poster of their choice, research or non-research focused, to celebrate contributions to psychiatric research and practice worldwide.

Sessions 4-12
New Research and Young Investigator New Research Posters

These posters report the findings of completed research in areas of both basic science and clinical research. Submissions are peer reviewed by the Scientific Program Committee members and consultants. Submissions must be at or above the threshold grade established by the Committee to be accepted for presentation.


SAN FRANCISCO, CA
MAY 18-22, 2013
PURSUING WELLNESS ACROSS THE LIFESPAN
166TH ANNUAL MEETING
AMERICAN PSYCHIATRIC ASSOCIATION
American Psychiatric Association
RESIDENT/MEDICAL STUDENT COMPETITION POSTER ABSTRACTS
© Jeremiah Fisher

POSTER SESSION 1
RESIDENT/MEDICAL STUDENT POSTER COMPETITION

Poster No. 1-1

"ATTACK OF THE ALIENS": A CASE OF RAPID RESOLUTION OF MYXEDEMA MADNESS

Lead Author: Sonia Demetrios, M.D.
Co-Author(s): Alan Arauz MD, Dr. Aasia Syed, Dr. Lavakumar

SUMMARY:
Background: Psychosis associated with hypothyroidism was first identified in 1888. Since then there have been numerous reports of identification and successful treatment of this syndrome. A review of the literature indicates that the typical time frame for resolution of psychosis is weeks to months. Given the functional and safety implications of psychosis and the mental distress associated with it more expeditious treatments are desired. We report a case where severe psychosis secondary to hypothyroidism was treated to complete resolution within 2 days.
Method: Case Report: Mr. X is a 49 year old man with no prior psychotic history who was brought in by police to the emergency department of a Midwestern academic county hospital. According to the police report his apartment was found to have blood stains and was destroyed. He stated that he was being attacked by aliens. On exam tendons of the right ring and little fingers were completely severed and he was bleeding profusely. Also of note he had a hoarse voice and pretibial myxedema. He described that he saw microscopic aliens emerge from his clothes and collect together as one giant alien. The alien then threatened to kill him and his girlfriend. In order to protect himself, he had attempted to kill the alien with a metal bar and consequently injured his hand. He was taken for emergent surgery. His vitals were stable and his neurological exam was unremarkable. TSH, T4, and anti-microsomal antibodies were 83.2, 0.4 mμU/ml, 8.74 IU/ml respectively. BMP, CBC, LFTs, ammonia level, B12, folic acid, VDRL, HIV, urinalysis, urine toxicology and serum alcohol were either within normal limits or negative. No abnormalities were detected on CXR or head CT. He was started on Thyroxine 200 mg IV, followed by 200 mg oral Levothyroxine. Olanzapine 10mg was initiated as an adjunct treatment to thyroid replacement. After 2 days of receiving treatment, the paranoia and visual hallucinations resolved.
Discussion: Most cases of myxedema madness have been treated with thyroid replacement. It is highly unusual for symptoms to resolve rapidly. There have been only two case reports of rapid resolution and in neither of these cases antipsychotics were used as adjunct treatment. This is the first report of rapid resolution of psychosis with olanzapine as an adjunct treatment to thyroid supplementation for hypothyroidism associated psychosis.
Conclusion: Recognition of this syndrome is critical for institution of appropriate therapy and in prevention of psychosis. Sometimes patients may be mislabeled with schizophrenia if proper laboratory analysis is not
instituted, as it may have occurred with this patient. Treatment with an antipsychotic as an adjunct to thyroid replacement could lead to more rapid resolution of psychosis secondary to hypothyroidism.

Poster No. 1-2

"FOR THERE ARE SOME EUNUCHS, WHICH WERE SO BORN FROM THEIR MOTHER'S WOMB," COMPLETE GENITAL SELF-MUTILATION: CHALLENGES AS PSYCHIATRY WEDS SURGERY

Lead Author: Suraj Pal Singh, M.D., M.Sc.
Co-Author(s): Neil Brahmbhatt DO, Thomas Heinrich MD, Annalise Koller DO, Abdul Khazi MD

SUMMARY:
Background: Self-mutilation is generally described as being a behavior or an act that results in an injury to one's own body part or tissue without the intention of suicide. Its prevalence in the general population is unknown, with about one hundred fifty cases reported in the medical literature and only about ten to fifteen of these being that of "complete" genital mutilation.
Objective: To present a case of complete genital self-mutilation which highlights the diagnostic dilemma which these patients often represent and the importance of a coordinated multidisciplinary approach to their medical, psychiatric and surgical care .
Case History: A twenty-year-old single African American male presented to a psychiatric hospital acutely psychotic after medical treatment for a self-inflicted orchiectomy. This was followed by him cutting off his penis at the shaft. He historically had repeatedly cut off his ear lobule due to preoccupation with his appearance. The patient's psychiatric symptomatology was complex and his explanations for the self-injurious behavior inconsistent and conflicting despite a prolonged inpatient psychiatric stay and repeated comprehensive neuropsychological assessments.
Clinical course and Interventions: Psychiatric: The patient had protracted inpatient psychiatric hospitalization during which time he was treated with an SSRI and antipsychotic for an obsessive thought process, dysmorphophobia, and auditory hallucinations. He was eventually able to form therapeutic alliances with the treatment team, but he did remain fairly indifferent to the harm caused by the incidences of repeated self-mutilation.
Surgical: He underwent several surgical procedures including a failed attempt at microsurgical replantation of the amputated penis and consequently the shaft was salvaged but the glans was lost due to necrosis.
Discussion: This is a rare presentation that imposed significant diagnostic and management challenges to psychiatry and to plastic surgery. The risk of recurrent self-mutilation remains high. Several possible explanations include homosexual or trans-sexual tendencies, repudiation of male genitals, an absent competent male figure in childhood and feelings of guilt and self-injury in the anamnesis and a formal thought disorder. Self-imposed changes in physical appearance and previous similar acts are significant risk factors.As a physical consequence, the patient will have a penis of smaller size, decreased sensation, and impaired erections.
Conclusion: We have attempted to explain his repeated self-mutilations through various theoretical psychological constructs with limited success. There is data to suggest that no one can predict with absolute certainty the risk of self-mutilation; however we feel that given attention to certain risk factors by
all clinicians involved in the patient's treatment, the likelihood of such a potentially devastating event needs to be considered and optimally prevented.

Poster No. 1-3

"NEITHER SHAKEN NOR STIRRED": A CASE STUDY OF SCHIZOAFFECTIVE DISORDER WITH HIGH SEIZURE THRESHOLD AND REFRACTORY TO ECT

Lead Author: Garima Singh, M.D.
Co-Author(s): Muaid H Ithman, MD, Kari Malwitz, MD, Naveen Yarasi, MD

SUMMARY:
Background: Electroconvulsive therapy (ECT) is an important tool in which a small electric current is passed, under general anesthesia, to generate a generalized seizure for the treatment of severe depression, schizophrenia and various other mental illnesses. Seizure threshold in ECT is defined as the smallest dose of electrical stimulus that produces a generalized seizure of at least 25 to 30 seconds as recorded by electroencephalography. It is variable in every individual and is dependent on many factors. We present a case study of a 61-year-old male with a history of schizoaffective disorder whose seizure threshold increased exponentially with ECT treatment and became refractory to it in spite of being on clozapine, which lowers the seizure threshold.
Case: We present a case study of a 61-year-old Caucasian male admitted with a diagnosis with schizoaffective disorder and mild mental retardation. Patient has a history of multiple psychiatric hospitalizations and trials of various antipsychotics with no positive sustained response. Henceforth, he was started on ECT. As per the available hospital records, the patient first session of ECT in Hospital was on December 2010. He had a bi-frontal ECT under the setting of 55 percent, 5.1 sec, 0.90 ampere and 60 frequencies that resulted in a peripheral seizure of 32sec and central 45sec. It was followed by maintenance sessions which included the settings of mostly 60 percent, 5.6 sec, 0.90 A and 60 frequency resulting in peripheral seizures between 26-16 sec and central lasting 37-24 sec. the Patient responded to the ECT sessions and was discharged. The Patient had subsequent relapse and was hospitalized again in September 2012. Because of his history and of good response to ECT in the past, he was started on ECT but no seizure activity could be produced at the previous setting even together with hyperventilation. Therefore, the settings were further increased in various sessions from 60 to 100 percent, anesthesia was adjusted and 120mg of IV caffeine was added. No seizure could be activated and the procedure was stopped. Meanwhile, the patient was also taking clozapine, which has one of the side effects of decreasing the seizure threshold.
Conclusion: There is limited literature in regards to how the stimulus dose, seizure threshold, and duration relates to the efficacy and side effects of ECT on an individual basis. After reviewing a patient case with refractory schizoaffective disorder where seizure threshold increased exponentially with repetitive sessions of ECT, it was concluded that even trials of augmentation with proconvulsant agents, adjustment of anesthetics and stimulus parameter did not made an effect.
We need to study this topic further to better understand this disease state and to find the best treatment options that are available.

References:
J Neuropsychiatry Clin Neurosci. 1998 Spring;10(2):178-86.
J ECT. 2012 Jun;28(2):133-5.
Encephale. 2003 Mar-Apr;29(2):99-107.

Poster No. 1-4

"PROCEED WITH CAUTION": PSYCHOSIS RELATED TO ZONISAMIDE THERAPY

Lead Author: Anupama Ramalingam, M.D.
Co-Author(s): Garima Singh, MD, Arpit Aggarwal, MD, Ganesh Gopalkrishna, MD

SUMMARY:
Background: Zonisamide is an anticonvulsant medication that is primarily used for adjunctive treatment of partial seizures. Psychosis incidence in one study ranged from 1.9% to 2.3% of patients treated with zonisamide which is concordant with 2% incidence of schizophrenic behavior reported by the manufacturer. However, it should be noted that these adverse effects have usually appeared during polypharmacy, rarely during monotherapy with zonisamide. We present a case of a 29 year old male who was started on zonisamide for adjunctive treatment of seizures and admitted to psychiatric service with psychotic symptoms.
Case: The patient is a 29 year old African American male with a history of complex partial seizures refractory to different anticonvulsant medication and no significant past psychiatric history. He was started on Zonisamide, after having a poor response to divalproex. After few months, he presented to psychiatric service for psychosis. It was reported that within 5 months of starting zonisamide the patient had paranoia, delusions of reference and persecutions, thought broadcasting and tangential thought process. His family confirmed that there was a definite change in his behavior after zonisamide initiation and progressively worsened to the point that it affected his daily activities. There was also a strong family history of paranoid schizophrenia and seizure disorder in the family. He was admitted to psychiatric service . Zonisamide was stopped and he was started on other anticonvulsant and antipsychotic medication. Patient responded well with discontinuation of zonisamide and a short course of antipsychotics.
Discussion: It is well established that Zonisamide can induce psychosis within weeks of initiation of therapy. The mechanism for this adverse event is not clear. Our patient had multiple risk factors for development of psychosis including family history of schizophrenia, use of zonisamide and phenytoin and the presence of seizures. Considering the detrimental impact of psychosis on the quality of life, the knowledge about risk factors is highly crucial. It is important to use caution in starting zonisamide for patients with family history of schizophrenia or other risk factors for psychosis and withdrawing it as soon as psychotic symptoms develop. It is important to use caution in starting zonisamide for patients with family history of schizophrenia or other risk factors for psychosis and withdraw zonisamide as soon as psychotic symptoms develop.

References
1. Miyamoto T, Kohsaka M, Koyama T: Psychotic episodes during zonisamide treatment. Seizure 2000; 9:65–70
2. Matsuura M, Trimble MR: Zonisamide and psychosis. J Epilepsy 1997; 10:52–54
3. Charles CL, Stoesz L, Tollefson G: Zonisamide-induced mania. Psychosomatics 1990; 31:214–217
4. Zonegran [package insert]. Elan Pharma International Ltd. January 2012.

Poster No. 1-5

"TREATING GOD: HOW FAR DO YOU GO?" HYPER-RELIGIOSITY AS A MANIFESTATION OF BIPOLAR MANIA

Lead Author: Kari Malwitz, M.D.
Co-Author(s): Garima Singh, MD, Naveen Yarasi, MD, Muaid H. Ithman, MD

SUMMARY:
Introduction: Hyper-religiosity (HR) is any thinking pattern that obscures the virtues of a healthy spiritual practice. It has been associated with bipolar disorder (BAD), schizophrenia, complex partial seizure disorder and obsessive compulsive disorder

(OCD). HR is when the outward forms and other aspects of religion become life disabling. We present a case of HR as a manifestation of psychosis in BAD, discussing the pharmacological and ethical dilemmas.
Case: This is a case of a 20 year old African American Female with a past history of BAD and multiple hospitalizations who presented to the hospital exhibiting HR, reporting being at church and God had taken over her body. She stated God asked her to come to the hospital to see people who were seeking her. Jesus was instructing her to fast for the past 2 days and to drop out of school. She also exhibited signs of mania such as expansive and elated mood, over productive and pressured speech, circumstantiality, flight of ideas and racing thoughts. During her hospitalization she refused to take oral medications, stating God did not want her to. She was tried on multiple injectable antipsychotics and developed adverse side effects. She did not respond to the medication changes, continued to report having special powers. After a failure of response to multiple therapeutic interventions, she received electro-convulsive therapy. She continued to report hearing commands from God, but showed modest improvement, with better eating and sleeping, and fewer reports of commands from God. She no longer appeared to be a risk to herself or others, had received the maximum benefit from hospitalization, and was discharged.
Discussion: There is very limited research on HR, although it is an important element of several major psychiatric disorders. A study conducted to investigate the phenomenology of BAD found 18.5% of the 184 patients showed HR as a symptom. In the four disorders associated with HR (BAD, schizophrenia, seizure disorder and OCD), there are neurobiological similarities in the areas of the brain affected, although no specific areas were found to be affected in all. In terms of treatment, it has been reported that the mania and HR could be treated. However, in our case virtually all aspects of mania resolved with the various treatment modalities with the exception of the HR, which decreased in intensity through the course of treatment. It was when her religious beliefs not longer appeared to be life-disabling was her discharge from the hospital deemed appropriate, despite the fact her thought process was still significant for religious content. This begs the question: how far do you go in treatment of hyperreligiosity? Does it become a clinical judgment or an ethical one?
References:
1. J Nerv Ment Dis. 1994 May;182(5):302-4.
2. Psychiatry Clin North Am. 1996;19:215-236)
3. Journal of Affective Disorders, 80, 29 – 35.

Poster No. 1-6

A SCREENING PROTOCOL FOR PSYCHOLOGICAL DISTRESS IN ADOLESCENTS WITH INFLAMMATORY BOWEL DISEASE

Lead Author: Peter S. Martin, M.D., M.P.H.
Co-Author(s): Colleen A. Nugent, MD, MS, Chang-Xing Ma, PhD, Robert D. Baker, MD, PhD, Susan S. Baker, MD, PhD

SUMMARY:
Purpose of Study: Patients with Inflammatory Bowel Disease (IBD), consisting of Crohn's Disease (CD) and Ulcerative Colitis (UC), see their GI specialists frequently due to the chronicity and physiology of these diseases. Struggles with these diseases also has been shown to lead to an increased psychological burden, manifested as internalizing (depression, anxiety) and externalizing (somatic manifestations) disorders. While primary care settings have increasingly screened for psychological distress, this is lacking in specialty settings. We hypothesize that the disease severity in IBD assessed at specialist practice sites correlates with psychological distress.
Methods and Procedures: A retrospective chart review was performed with 96 adolescents (mean age=15.13 years old, SD=2.94) diagnosed with IBD (%CD=68.42) visiting one of three clinic settings. At each visit, psychological symptom severity was measured with the Pediatric Symptom Checklist (PSC) and Youth Pediatric Symptom Checklist (YPSC). GI symptom severity was measured with either the Pediatric Crohn's Disease Activity Index (PCDAI) or Pediatric Ulcerative Colitis Activity Index (PUCAI) depending on the respective diseases.
Summary of Results: There was a strong correlation between parental and child scores on psychological factors ($r=0.78$, $p<0.05$). For Crohn's Disease, PCDAI scores correlated with both overall PSC ($r=0.23$, $p<0.05$) and YPSC ($r=0.20$, $p<0.05$). PCDAI scores correlated with internalizing symptoms both on the PSC ($r=0.37$, $p<0.05$) and YPSC ($r=0.30$, $p<0.05$). There were correlations with PCDAI items for abdominal pain and patient functioning both on the PSC and YPSC. For Ulcerative Colitis, PUCAI scores correlated with overall YPSC (0.34, $p<0.05$) but not overall PSC ($r=0.26$, $P=0.06$). PUCAI scores correlated with internalizing symptoms for both parent ($r=0.32$, $p<0.05$) and youth ($r=0.33$, $p<0.05$) scales. This same pattern of correlation with overall YPSC but not overall PSC held true for the PUCAI items examining activity level and stool type. A significant number of PSC and YPSC screenings generated scores sufficient for referral mental health referral (19.45% and 14.94%, respectively).
Conclusions: Our results do support the hypothesis that disease severity and psychological distress correlate. Parent and child reports of distress correlated for both overall scores and specific parameters. There were a large number of potential referrals triggered per total score on both the PSC and YPSC. This tool is easily administered and offers insight into the psychological state of the adolescent, how that is perceived by a parent and when an intervention by a mental health professional is indicated. This intervention could be adopted by other specialties to improve recognition of mental health concerns for children with chronic illness.

Poster No. 1-7

ACUTE ONSET PSYCHOSIS IN A PATIENT WITH TEMPORAL LOBE EPILEPSY

Lead Author: Marc Anthony Bouchard, D.O.
Co-Author(s): Jonathan Wolf, M.D.

SUMMARY:
Introduction: The differential of acute mental status changes is broad, to include neurologic, substance related, infectious, and primary psychiatric etiologies. Diagnosis in cases of Altered Mental Status (AMS) requires medical evaluation in addition to consideration of primary psychiatric disorders. Taking a careful and detailed history becomes even more essential in cases where a medical cause of the psychiatric presentation is suspected. This is a case of a patient whom presented with acute mental status changes and marked paranoia ultimately found to have left temporal lobe epilepsy after spontaneous resolution of mental status changes and paranoid thinking.
Case: The patient is a 45 year-old male retired soldier with a history of one previous episode of acute onset of paranoia and AMS during deployment to Iraq three years prior to presentation that spontaneously remitted, who was admitted to the medical service for acute mental status changes, disorganized behavior, and paranoid thinking. A complete medical workup was performed to include laboratory for AMS, head imaging, and CSF studies, all of which did not reveal a clear etiology to explain the patient's presentation. Ten days after admission the patient was noted to no longer be demonstrating disorganized behavior, his previous paranoid thinking was largely resolved, and he began demonstrating insight into the behavioral abnormalities he was exhibiting. He received a single one-time dose of 2mg IM lorazepam and 0.5mg risperidone for an episode of acute agitation and paranoia two days after admission, and was noted to demonstrate marked improvement upon clinical exam nearly immediately afterwards. A 48-hour video EEG was performed later in the hospitalization which revealed slowing and epileptiform discharges in the left temporal region. The patient

was started on lamotrigine 25mg daily and discharged without out-patient neurology follow-up. He has since been titrated up to lamotrigine 200mg daily without any further complications.
Discussion: In patients whom present with AMS it is important to conduct a thorough medical workup prior to diagnosing a primary psychiatric disorder. Temporal lobe epilepsy (TLE) is a known clinical entity that causes a post-ictal psychosis (PIP) in up to 9% of patients with TLE. Common presenting features include disorganized behavior, delirium, auditory or visual hallucinations, and paranoia. PIP accounts for up to 25% of all psychotic presentations of patient's with epilepsy, and as much as 50-60% of patients with a history of PIP can suffer additional episodes. This case illustrates a common presentation of PIP in a patient with TLE whom manifested an acute onset of disorganized behavior and paranoid thinking.

Poster No. 1-8

AGAINST ALL ODDS: TWO BROTHERS' STRUGGLE WITH RETT SYNDROME AND AGGRESSION

Lead Author: Gaurav A. Kulkarni, M.D.
Co-Author(s): Dr. Adam, Balkozar, Dr. Arpit Aggarwal, Dr. Emaya Anbalagan

SUMMARY:
Objective: Andreas Rett in 1966 identified Rett syndrome, a neuro-developmental condition, is a rare clinical entity with an incidence of 1 in 10,000 female births. The occurrence is even more infrequent in males, where boys usually don't survive infancy. Because of the extreme rarity of this disorder in males, most of the studies are done in females. We present two cases: 11 and 13-year-old brothers diagnosed with Rett syndrome who were referred to our child and adolescent psychiatry clinic with behavioral concerns including aggression, poor social interaction, hyperactivity and developmental delays.
Case 1: 11-year-old male presented with extreme aggression: biting and hitting his brother, cussing and hitting people in public. He was diagnosed at age 6 with Rett syndrome secondary to mutations in the MECP2 gene. Although he received support from school (special education), from the case worker (who worked closely with him due to his developmental delays and mental retardation), he continued to have major problems at home, school and in the community.
Case 2: 13 year old male, diagnosed with Rett syndrome, severe mental retardation, mood disorder, obesity as well as well as ADHD had been on multiple psychotropic medications in the past; all with limited behavior control. He hits his head on the wall, bites himself, has no friends, and his mother had to put a lock on the refrigerator to keep him from overeating.
Result: The young brother (case 1) responded well to Lamotrigine (no history of seizures); had tried multiple anti psychotics in the past. Combined with collaborative approach and integration of various services, he is reportedly doing better now and does not display aggression. He goes to a community activity center with his caseworker and is able to attend school with improved academic performance. His family interactions have improved. He also is becoming healthier by losing weight.
The older brother (case 2) benefited from more intensive out-patient services, however continues to display behavioral issues. We are continuing the collaborative approach and integration of various services for him with no significant benefit so far.
Discussion and Conclusion: We discuss the struggles and challenges the mother faces every day in trying to meet the most basic of needs: keeping her sons safe at home. With the boys getting older, new problems arise. For example, the younger brother is acting out sexually. The younger brother benefited significantly from Lamotrigene. The wraparound services, support by the school, special programs for intellectually challenged children, medical, psychological and psychiatric interventions are all critical in helping these boys deal with their limitations. They also provide great assistance for the family to understand and support them, all while helping them reach their potential. Through it all, the psychiatrist must continually weigh the risks and benefits of the medications prescribed.

Poster No. 1-9

AN ETHICAL ANALYSIS OF A PATIENT'S REPEATED DEMAND FOR LIMB AMPUTATION

Lead Author: Stamatis Andreas Zeris, M.D.
Co-Author(s): Alexander W Thompson, MD, MBA, MPH
Chief, Psychiatry C-L Service; Harborview Medical Center

SUMMARY:
Purpose: Our primary purpose is to present a unique case of self-amputation and to analyze the patient's aggressive requests for amputation using an established "four topics" ethical framework. The patient is a 30 year old female hospitalized after a self-inflicted, below the left knee amputation by dry ice. The amputation occurred in the absence of a mood, psychotic, or substance use disorder and took place after months of her pleading with physicians to amputate her leg. She wrote detailed letters arguing that this was medically indicated based on her poor quality of life and desire for the surgery. She reported a history of complex regional pain syndrome (CRPS) and described pain and dysfunction (requiring help for all ADLs) all related to the limb in question. Objective findings were never corroborated and the diagnosis was never well established. She refused any standard treatments for CRPS and destroyed her lower limb when not provided voluntary amputation. When seen on our hospital's burn unit, a diagnosis of undifferentiated somatoform disorder and probably cluster B personality disorder was made. She was exceedingly pleased with her outcome.
Methods: We review this case of self-amputation using the "four topics" method attributed to Siegler. This framework systematically applies the ethical principles of beneficence, nonmaleficence, autonomy, and justice to each of the following four areas: 1) medical indications; 2) patient preferences; 3) quality of life considerations; and 4) external factors.
Results:
1. Medical Indications: The patient reports symptoms of CRPS, however, a neurologic consultation reveals that she does not meet objective criteria for a diagnosis CRPS. All physicians meeting the patient do not feel amputation is medically indicated. A psychiatric evaluation suggests psychotherapy in addition to conservative medical care is the appropriate indicated treatment. Orthopedic surgery recommends pharmacologic treatment, pain consultation, and physical therapy, before consideration of amputation.
2. Preferences and Quality of Life: The patient was clear about her preferences. Her desire for amputation stems from her belief that her leg is non-functional and is the only source of her intractable pain and an exaggerated belief that she cannot perform minimal activities of daily living with CRPS. She notes that the recommended, conservative treatments will actually worsen her suffering.
3. External Factors: Patient lives with her husband, who will assume full care of the patient during the rehabilitative phase after the amputation. A non-medically indicated amputation would result in inappropriate usage of medical resources.
Conclusions: The patient argument on preference and quality of life grounds does not drive medical indication.

Poster No. 1-10

AN UNUSUAL PRESENTATION OF STEROID-INDUCED ACUTE ONSET OF WORSENING OF DEPRESSIVE SYMPTOMS IN A PATIENT ON SHORT-TERM ORAL PREDNISONE TREATMENT

Lead Author: Taranjeet Singh Jolly, M.B.B.S., M.D.
Co-Author(s): Dr.Bakul Parikh M.D.

SUMMARY:

Introduction: Corticosteroids are routinely prescribed for a variety of allergic and immunologic diseases. Corticosteroid therapy is known to induce numerous psychiatric disorders including mania, depression and psychosis. Minor changes of the euphoric mood type are seen in 75% of the patients under treatment. Major adverse effects are seen in not more than 5% of the cases. The most common short-term adverse effects of corticosteroid therapy are euphoria and hypo mania. Conversely, long-term therapy tends to induce depressive symptoms. Psychiatric symptoms usually occur within the first two weeks of corticosteroid therapy and seem to be dose related. Studies have shown that patients with past mental disturbances are not necessarily prone to such disturbances and that steroid induced disturbances are reversible on dose reduction or discontinuation of drug.

Clinical Presentation: This is a case report about a 64 years old Caucasian male whom we saw at our outpatient clinic. He was being managed for his depression by his primary care provider and was stable on 100mg/day of sertraline (SSRI) for past 8 years. Patient denied any other psychiatric history and was gainfully employed (retired a few months back)with healthy relationships in the past. Patient was recently started on Oral Prednisone 30mg/day on tapering dose for rash behind both ears. Patient noticed severe worsening of his depression after getting started on steroids. This was also accompanied by severe anxiety and insomnia. There was also some cognitive impairment and onset of mild obsessive-compulsive symptoms with this event. Patient denied any symptoms of euphoria or mania during this period. Patient went to Psychiatry ER for his severe depression and was referred to the outpatient clinic for further management. Patient is still struggling with his depression, anxiety and obsessive symptoms after more than 6 weeks of discontinuation of steroids and despite of increasing the dose of sertraline (SSRI) and adding other anti-depressants. He is currently being managed on sertraline (SSRI) 150 mg/day, bupropion SR 100mg/day, clonazepam .5mg up to 3 times/day PRN, Trazodone 75mg at night.

Disussion: This case is an interesting presentation of "early onset of depressive symptoms" in "short-term" use of systemic steroids, instead of euphoric/manic symptoms that are more common. It is also a unique presentation of new onset obsessive-compulsive disorder and cognitive dysfunction in short term use of systemic steroids. It emphasizes that we as physicians should be more cautious in obtaining a detailed psychiatric history before prescribing systemic steroid therapy and carefully weigh the pros and cons of it.

Poster No. 1-11

ANTI-NMDA RECEPTOR ENCEPHALITIS PRESENTING WITH SUICIDAL IDEATION: CASE REPORT AND A REVIEW OF LITERATURE

Lead Author: Narpinder Kaur, M.D.
Co-Author(s): Rohit Madan, MD

SUMMARY:

INTRODUCTION: Anti-N-methyl-D-aspartate receptor (NMDAR) encephalitis appears to be one of the most common autoimmune encephalitis. Psychiatric manifestations are common in this condition. We report a case of Anti-NMDA Encephalitis with suicidal ideation that had a protracted hospitalization.

CASE REPORT: A 21 year old Hispanic female with two month history of depression presented to the ED with an acute onset of suicidal ideation and nihilistic thoughts. In the ED she did not recognize her family and was extremely agitated. Her routine labs were unrevealing except a raised ESR. Brain MRI, head CT were normal. Her CSF showed monocytosis. In two weeks of her hospitalization she became mute, developed pouting and dyskinetic movements of upper limbs. Serum Anti NMDA antibody was positive. Further investigation for any germ tumor was negative. She was treated with IV solumedrol and plasmapheresis with limited improvement, and later received a course of rituximab and cyclophosphamide. Her agitation was particularly problematic, she required restraints frequently and was treated with haloperidol, quetiapine and lorazepam. With the patient having possible seizure-like activity on EEG and long-standing agitation, she was placed on semi sodium valproate 1000mg twice daily and risperidone long acting injection 25mg IM 2 weekly.

DISCUSSION: Following the first description in 2007, several cases of NMDA receptor encephalitis have been reported. Psychiatric symptoms are common during the initial of the illness, as depressive and psychotic symptoms were evident in our case. Dyskinesias and catatonic symptoms are often seen.

The course is protracted with idiopathic NMDA encephalitis. Psychiatrists are frequently consulted for managing agitation. In this patient a combination of risperidone and semi sodium valproate was effective.

CONCLUSION: Anti-NMDA receptor encephalitis is not uncommon, this diagnosis must be considered for young patients (<30 years age) presenting with encephalitis of uncertain etiology, psychiatric symptoms like psychosis, seizures and movement disorders. Early identification can aid in early removal of malignancy due to association with germ cell tumors when present and prompt immunotherapy.

References:

1) Dalmau J, Lancaster E, Martinez-Hernandez E,et al. Clinical experience and laboratory investigations in patients with anti-NMDAR encephalitis. Lancet Neurol. 2011 Jan;10(1):63-74.

2)Prüss H, Dalmau J, Harms L, et al. Retrospective analysis of NMDA receptor antibodies in encephalitis of unknown origin. Neurology. 2010 Nov 9;75(19):1735-9.

3) Prüss H, Dalmau J, Arolt V, Wandinger KP. [Anti-NMDA-receptor encephalitis. An interdisciplinary clinical picture]. [Article in German] Nervenarzt. 2010 Apr;81(4):396, 398, 400, passim.

4) Dalmau J, Tüzün E, Wu HY,et al. Paraneoplastic anti-N-methyl-D-aspartate receptor encephalitis associated with ovarian teratoma. Ann Neurol. 2007 Jan;61(1):25-36.

Poster No. 1-12

ANTI-NMDA RECEPTOR ENCEPHALITIS: AN EMERGING NEUROPSYCHIATRIC SYNDROME: A CASE REPORT

Lead Author: Tho Van Tran, M.D.
Co-Author(s): Dr. John, Vineeth, Dr. Barr, Jeffrey

SUMMARY:

Anti NMDA receptor encephalitis is a newly emerging immune mediated, neuropsychiatric syndrome which presents with a mysterious array of clinical symptoms which include confusion, psychosis, memory difficulties and multiple nonfocal neurological deficits. Prompt and accurate diagnosis by clinical observation and serological detection often leads to successful treatment. In our poster, we will describe a case of Anti NMDA receptor encephalitis in a twenty one -year-old previously healthy female with no past psychiatric history and with subsequent diagnosis of ovarian teratoma. We will discuss the clinical characteristics, epidemiology, differential diagnoses, prognosis and relevant laboratory/imaging findings of Anti NMDA receptor encephalitis which would be of immense importance to a practicing psychiatrist in a consult liaison setting. The latest treatment strategies would be reviewed, especially the use of psychotropics to manage the commonly noted

symptoms of agitation, anxiety, mood lability, confusion, catatonia and psychosis.

Poster No. 1-13

ANTIDEPRESSANTS WILL NOT KEEP YOU OUT OF THE HOSPITAL: A ONE-YEAR FOLLOW UP OF 377 PATIENTS WITH BIPOLAR DEPRESSION

Lead Author: Jessica Lynn Warner, M.D.
Co-Author(s): Kalya Vardi, MD, Noah Philip, MD

SUMMARY:
Introduction: Depressive episodes remain the major cause of disability in bipolar patients. Recently, research from the Systematic Treatment Enhancement Program for Bipolar Disorder (STEP-BD) indicated that adding an antidepressant to a mood stabilizer confers no additional benefit over a mood stabilizer alone. We have observed that, despite these data, antidepressants are often prescribed for bipolar depression in our hospital and hypothesized that their ongoing use might reflect a clinical advantage not observed in research trials. The purpose of this study was to evaluate this potential effect using all-cause hospital readmission rates as a naturalistic metric of psychiatric outcomes in the year post-discharge.
Methods: A retrospective chart review was conducted on patients ages 18-65 with Bipolar I Disorder, Most Recent Episode Depressed, who were discharged from Butler Hospital in Providence, RI, from January 1, 2008 to July 12, 2011. Participants were divided into those that were prescribed an antidepressant at discharge (AD+) and those that were not (AD-). Only those on an adequate dose of a mood stabilizer or atypical antipsychotic were included. Primary outcome measures were the impact of antidepressant exposure on readmission rates and time to readmission in the year post-discharge. Secondary analyses examined the impact of individual antidepressants, anxiety and affective switch rates.
Results: 377 patients were included in the study. There were no clinically significant demographic differences between AD+ and AD- groups. Binary logistic regression showed no group differences in readmission rates in the year post-discharge ($p = .77$). Survival analysis using Cox regression showed no group differences in time to readmission in the year post-discharge ($p = .88$); mean time to readmission was 205 ± 152 days. Those with anxiety disorders had a significantly higher readmission rate and shorter time to readmission regardless of antidepressant status. When controlling for anxiety, patients discharged on venlafaxine were more likely to be readmitted compared to the AD- group or those on other antidepressants (hazard ratio=2.35, 95% CI 1.03-5.38) with a statistical trend for patients on venlafaxine to be readmitted more rapidly. There was no relationship between antidepressant class and affective switch; however, anxiety was a strong predictor of affective switch (hazard ratio=7.61, 95% CI 2.27-25.52).
Conclusions: Our findings are consistent with and expand upon STEP-BD using a clinically relevant outcome measure. Our study suggests that antidepressants do not prevent hospital readmission and that venlafaxine may be harmful. It also demonstrates that bipolar depression with comorbid anxiety represents a significant clinical problem. While our data are limited by their retrospective nature, these results should prompt clinicians to carefully consider antidepressant use for bipolar depression.

Poster No. 1-14

ASSOCIATION BETWEEN CITALOPRAM SERUM LEVEL AND QTC INTERVAL ON ELECTROCARDIOGRAM

Lead Author: Yingying Kumar, B.S.
Co-Author(s): Gen Shinozaki, MD, Yi Cai, BS, Simon Kung, MD

SUMMARY:
BACKGROUND: Recently, the Food and Drug Administration (FDA) warned against the use of citalopram at a dose of >40mg/day due to reports of QT interval prolongation and Torsades de Pointes. Citalopram is metabolized by the cytochrome P450 (CYP) genes and genetic variations affect both metabolism and tolerance of the medication. However, it is unknown whether metabolism and serum levels of citalopram relate to an increased risk QT interval prolongation.
METHOD: Retrospective chart review of 103 incidences (93 unique patients) when citalopram serum levels were obtained for any indication except acute overdose at Mayo Clinic, Rochester Minnesota from 2005-2012. Automated QT and QTc intervals from electrocardiogram (ECG) closest to date of drug level monitoring were obtained from electronic medical records. Inclusion criteria included identical citalopram or escitalopram daily dosage at time of serum level measurement and ECG. During analysis, escitalopram dose was converted to citalopram equivalent based on a 1:2 ratio. One way ANOVA was used to examine the relationship between medication dose and citalopram serum level or QTc interval. Regression analysis was used to examine the relationship between citalopram serum level and QTc interval. T test was used to compare QTc interval between those taking >40mg/day and those taking 40mg/day of citalopram equivalent.
RESULTS: Of 103 incidences (93 unique patients, 73% female, mean age = 54.7), QTc was obtained in 79 cases and ranged from 369-568ms (median 441ms). No significant relationship was found between gender and citalopram dose, drug level, or QTc. Older individuals tended to have higher drug levels (Adjusted $R2=0.16$, $p<0.0001$) and longer QTc (Adjusted $R2=0.085$, $p=0.005$). However, the dosage of citalopram equivalent did not significantly change with age. Higher citalopram doses were correlated with higher drug levels (Adjusted $R2=0.32$, $p<0.0001$), but not with QTc interval (Adjusted $R2=0.02$, p=ns). Higher levels of citalopram significantly correlated with longer QTc (Adjusted $R2=0.077$, $p=0.0075$). The QTc interval of subjects taking > 40mg/day citalopram equivalent did not differ significantly from those taking 40mg/day (mean QTc 445.67ms vs. 452.72ms, p=ns).
CONCLUSION: There exists evidence for a weak relationship between age, citalopram serum level, and QTc length. Although there is evidence for a relationship between dose and drug level, based on the current study, it does not appear citalopram (or escitalopram) dosage significantly affects length of QTc interval. Furthermore, there was no significant difference in QTc between those taking low (40mg/day) vs. high (>40mg/day) doses of the medication.

Poster No. 1-15

AUTOMATED ABNORMAL INVOLUNTARY MOTION ASSESSMENT SYSTEM: INCREASED RELIABILITY IN THE DETECTION AND RATING OF TARDIVE DYSKINESIA

Lead Author: Daniel Rollings Karlin, M.A., M.D.
Co-Author(s): Lily Szajnberg, Greg Borenstein

SUMMARY:
Problem: The standard assessment of movement disorders is reliant on subjective, visual analysis. Clinicians use scorecards such as the Abnormal Involuntary Motion Scale (AIMS) to qualitatively evaluate movement abnormalities like Tardive Dyskinesia (TD). High-end technology that captures more quantitative, objective data, is available in some clinics, but is expensive, time-consuming, and not easily accessible to patients on a regular basis. The Abnormal Involuntary Motion Scale is a 12 point anchored scale that should be administered by a

trained clinician on a regular basis to assess patients for symptoms of TD - a degenerative motion disorder caused by certain antipsychotic drugs, which, if caught early, can be prevented by changing the patient's medication regimen. Administered by physician observation, the data collected relies on physician experience with using the scale for precision and has been shown to have a lower inter-rater reliability with less experienced or non-physician practitioners.
Solution: Using inexpensive consumer-grade 3D cameras and face-tracking technology compatible with consumer computers, GAGE provides a platform for easy testing of TD, providing a larger, cleaner data-set that stores in an Electronic Medical Record for universal access to relevant health care professionals. GAGE captures large and small scale movements while being completely non-invasive.
Method: The AIMS scale has five categories of parameters: facial and oral movements, extremity movements, trunk movements, global judgment, and dental status. Of the nine parts in the AIMS scale that address physical progress seven can be tracked using the inexpensive 3D abilities of the Kinect camera. The software is written to look at 16 parts of the human skeleton in three anatomical planes with precision to the millimeter and calculate the total amount of movement over the course of 10 seconds. The initial subjects represent a healthy convenience sample and none of them suffer from any known movement disorder. In condition 1, these subjects were instructed to follow the testing protocol with no modification in their movements. In Condition 2, the subjects were trained such that they could simulate the movement typical of a patient with evolving TD. They were rated by an observer to be accurate and able to simulate mild and moderate TD. They were instructed to follow the directions while simulating movements consistent with mild to moderate TD.
Outcomes: The control subjects each scored a value of 0 on the GAGE testing, as expected. The control subjects were able to mimic Moderate symptoms, scoring 3's using GAGE. Based on initial testing, the Kinect's 3D capabilities can reliably detect the involuntary movement necessary to objectively evaluate TD patients. Out of the relevant 9 items of the AIMS scale, the Kinect was able to detect 7 control levels and 2 simulated TD steps.

Poster No. 1-16

BATH SALT USE AMONG MEMBERS OF THE UNITED STATES MILITARY

Lead Author: Daniel Allen, M.D.
Co-Author(s): Kaustubh Joshi, MD; Wander Segura, MD

SUMMARY:
Methylenedioxypyrovalerone (MDPV or "bath salts") has received notoriety in the media due to its suspected role in an increasing number of violent attacks. MDPV, a designer drug, known to be a NDRI, is also reported to cause neuropsychiatric symptoms such as psychosis during intoxication. Despite evidence of its danger, MDPV use is on the rise in America. Military members are a sample of American society, and as such the increase in MDPV use poses a potential concern for a similar trend of use in the military. This paper puts forth current information regarding MDPV use in the military, as well as military specific considerations in obstacles to detection and treatment.

Poster No. 1-17

BEHAVIOR CHANGES AFTER TRAUMATIC BRAIN INJURY: A CASE REPORT OF ORBITOFRONTAL SYNDROME

Lead Author: Pankaj Lamba, M.B.B.S., M.D.
Co-Author(s): Bakul Parikh, MD

SUMMARY:
INTRODUCTION: Physicians frequently encounter patients who report mild traumatic brain injury (MTBI) or concussion. Incidence is ~ 500 per 100 000 people. Motor vehicle accidents (MVA), falls, contact sports and wars are frequent causes. While the majority of cases will fully recover over days to months, up to 15% of patients may continue to experience persistent postconcussive symptoms (PPCS), which can be disabling. MTBI frequently damages the dorsal and ventral region of the prefrontal cortex. Three frontal-subcortical circuits are frequently disrupted: dorsolateral prefrontal, orbitofrontal, and anterior cingulate, which are dedicated to executive functions, social behavior and motivational states respectively. Signs and symptoms of PPCS can be confused with psychiatric disorders, and they can also cause substantial worsening of pre-existing symptoms. The following case-report underscores the importance of PPCS.
CLINICAL CASE: A 28-yr-old woman presented with chief compliant "inability to control urges." She described befriending unknown men on the Internet, and meeting these men without apprehension about her well-being. She described being impatient and easily irritated; she could not stand noises her children made during play. Chart review indicated, her problems started after a MVA about four years ago. Prior to her accident she was working as a nursing assistant and caring for her children. EMR notes indicated a brief loss of consciousness, Glasgow Coma Scale of 15. Hospital notes document post-traumatic amnesia for 2 days from which she recovered completely. Psychiatry notes a year after the accident documented, episodes of road rage, excessive irritation, visual hallucination. MSE: She was oriented x 3; had a silly expression on face while speaking about serious problems; was talkative though speech was not pressured; enjoyed telling jokes, e.g. the surgeon had created a 'W' shaped scar while suturing her arm after accident to represent his own initial; memory was intact; had poor judgment with limited insight.
DISCUSSION: Patient's presentation characterized by inability to control impulses leading to aggression, social inadequacy and inconsequent behavior is characteristic of orbitofrontal syndrome. It is characterized by personality change including behavioral disinhibition and emotional lability. The temporal relationship of behavior changes to her MVA and the soft-tissue swelling in the orbital region seen on the non-contrast CT done after accident and the Neuropsychological testing report done 21-month post-accident are suggestive of damage in ventral brain region over the orbits, corresponding to orbital frontal area. In conclusion, the importance of recognizing post-concussive symptoms is justified due to high incidence, patients suffering. References: Brain Injury Medicine, Principles and Practice, Zasler N.D. et al., 2012 and Clinical Practice Guidelines for MTBI and Persistent Symptoms, Can Fam Physician 2012;58:7-67.

Poster No. 1-18

BEWARE THE SECRET SAUCE AT JACK-IN-THE-BOX: CATATONIA, A CASE REPORT

Lead Author: Garima Arora, M.B.B.S.
Co-Author(s): Leon Grant, DO; Paul E Schulz, MD; Prashant Gajwani, MD; Jeffrey V Barr, MD

SUMMARY:
Per the DSM-IV-TR, Catatonia is manifested as motoric immobility, excessive motor activity (that is apparently purposeless and not influenced by external stimuli), extreme negativism or mutism, peculiarities of voluntary movement, or echolalia or echopraxia. It has also been described as a state of apparent unresponsiveness to external stimuli in a person who is apparently awake. Catatonic symptoms have been reported in the setting of Schizophrenia, Schizoaffective Disorder, Major Depressive Disorder, Bipolar Disorder, Parkinson's disease, Dementia and an assortment of medical conditions. In clinical settings catatonia has often been difficult to differentiate from diffuse encephalopathy or non-convulsive status epilepticus. This is a case of a 43 year-old Caucasian female who was bought in from a fast-food establishment (Jack in the Box) to the hospital as a case of altered mental status. In the absence of any

abnormalities in the extensive neurological work-up and most importantly due to the presence of waxy flexibility a diagnosis of Catatonia was made. The resolution of Catatonia after 4 days was achieved with Ziprasidone and 2 doses of Lorazepam. It was only after resolution of Catatonia patient's history of schizophrenia came to light.

Poster No. 1-19

BUPRENORPHINE TREATMENT: A SAFE ALTERNATIVE FOR OPIOID-DEPENDENT PATIENTS WITH CHRONIC PAIN

Lead Author: Angela M. Cross, B.A., M.D.
Co-Author(s): Andrew Kolodny MD, Adam Serby MD, Christopher Holden MD, Tatyana Poblaguyev MD, Theresa Jacob PhD, MPH

SUMMARY:
Background: Despite low-quality evidence supporting practice change, use of opioid therapy for chronic non-cancer pain increased dramatically. Concurrently, opioid overdose deaths, addiction and diversion increased markedly. Buprenorphine provides an efficacious treatment modality for opioid dependence and is approved for office-based medical practice. Although buprenorphine's effectiveness for treatment of opioid addiction has been demonstrated and it is known to have a better safety profile than methadone for routine outpatient medical use, it has not been adequately studied in patients with opioid addiction and chronic pain. Objective: To utilize sublingual (sl) buprenorphine for treatment of chronic pain patients with co-occurring opioid dependence in a home induction procedure and to maintain them on this medication. We hypothesize that over 80% of patients treated with sl buprenorphine will complete the induction, that at the end of the induction protocol withdrawal symptoms will be absent, that pain severity will progressively decline to a level less than the baseline level and that it will significantly enhance patient outcomes and quality of life. Methods: Patients identified to be on prescription opioids for chronic pain in our adult outpatient psychiatric clinic were invited for an interview assessing level of pain, pain interference in daily life, and opioid dependence. Patients who screened positive for opioid dependence with moderate to severe pain and/ or at least mild to moderate pain interference were enrolled in the study. Psychometrically reliable, validated rating scales were administered to assess various aspects of pain, opioid dependence, and quality of life on the day of induction and at 1 week, 1 month, 3 months, and 6 months post-induction. Adherence is assessed at every visit by testing urine for opioids and buprenorphine. At the 6-month visit, their experience with buprenorphine as a pain and addiction aid is also evaluated. Results: We have identified 104 patients taking prescription opioids for extended periods of time. Of these, approximately 80% patients use the opioids for chronic pain. The recruitment process has been slower than expected and only a few patients are currently enrolled in the study. A sample size of 30 is needed to achieve 80% power. One barrier has been patient reluctance to discontinue current opioid medication. Several qualified subjects are pending buprenorphine home induction as we continue patient recruitment. Conclusions: We expect that our data will demonstrate absence of withdrawal symptoms and decline of pain severity at the end of the buprenorphine induction. Buprenorphine can be a safe alternative for opioid dependent patients with chronic pain, and home induction can be successfully performed in an outpatient setting for opioid dependent chronic pain patients to enhance quality of life.

Poster No. 1-20

CASE REPORT OF UNDIAGNOSED PARURESIS WITH GENETIC PREDISPOSITION IN THE FAMILY

Lead Author: Abhishek Rai, M.D.
Co-Author(s): Dr Anil K Jain

SUMMARY:
A patient underwent symptomatic medical and surgical therapies for a ''Shy Bladder Syndrome'' for over 6 decades and when finally the psychiatric basis of the symptoms was established, the condition of paruresis was already showing up in the 3rd generation of his family Paruresis, in scientific terms is described as inability to micturate in the public restrooms or in presence of any person .It has been listed as social phobia in DSMIV-TR. Its prevalence vary from 7%to 23% in the population. Our patient began to show symptoms of paruresis at age 12 and eventually sought medical attention and urological intervention for symptomatic relief from urinary retention and bladder distension. The medical procedures, spanning his entire adolescent and adult life, included aided catheterization, self-catheterization and multiple kidney and bladder surgeries which in turn elicited associated problems such as recurrent UTI and multiple hospitalizations. At the age 75, suprapubic-cystostomy was resorted to as a final corrective measure which in turn gave way to severe anxiety and finally precipitated as major depression. On recording a detailed history from the patient with inputs from his wife, the diagnosis of paruresis was established and it's nuances, explained to the patient. At this point a mention of symptoms of paruresis having appeared in the patient's son and grandson were made, commencing at age 12 in both cases (same age as in the patient). While the son coped with the condition, apparently without medication, the grandson is receiving behavioral therapy in light of the diagnosis made for the patient. This case highlights the ignorance and dearth of dynamicity in the medical fraternity, when it comes to identifying and diagnosing possible behavioral health conditions.. As a matter of great irony, a case that was psychiatric in demeanor to begin with, was referred to the psychiatry department for the first time after 6 decades of inconclusive, futile treatments. which were invasive in character and highly inconvenient causing economic, health and social limitations.
This case and many others like it demand and deserve early recognition and proper co-ordination between various departments, laying heavy emphasis on non-intrusive early psychotherapy (desensitization, cognitive restructuring
combined with supportive therapy) followed by medication and urologic surgical intervention being resorted to only as a last resort. The Second appealing facet of this case is familial presentation of this disorder. As per our current knowledge, it is the first clinical encounter to showcase familial predisposition in paruresis and how it could be strongly represented in each generation. It also obligates further research about genetic inheritance patterns of this condition for its early detection and management to surmount unnecessary medical and surgical procedures.

Poster No. 1-21

CASES OF CHRONIC INSOMNIA PATIENTS TREATED BY GROUP COGNITIVE BEHAVIORAL THERAPY FOR INSOMNIA

Lead Author: Mijin Yi, M.D.

Co-Author(s): Tae Won Kim, Jin Hee Han, Sung Pil Lee, Seung Chul Hong

SUMMARY:

Pharmacotherapy is currently widely used in the treatment of insomnia can be helpful in transient insomnia, but research regarding its effectiveness and safety of long-term use is not enough. Therefore, to complement the limitations of pharmacotherapy in the treatment of patients with insomnia, non-pharmacologic treatment methods (Cognitive behavioral therapy; CBT) are used. But CBT for insomnia appear to be costly and time-consuming compared to pharmacotherapy, clinical practice in the field can be difficult to apply. The authors took the format of group therapy rather than individual therapy to complement the disadvantages of CBT and now we would like to have a thought into its meaning by reporting several cases of patients who reduced taking sleeping pills through group CBT.

Poster No. 1-22

CHALLENGES IN REFERRAL TO A NONINTEGRATED HIV PSYCHIATRY CLINIC AT AN ACADEMIC MEDICAL CENTER

Lead Author: Keith Reitz, M.D.

Co-Author(s): Isabel Schuermeyer, M.D.

SUMMARY:

Integrated clinics that combine Psychiatry with Medical Subspecialty clinics have previously been shown to improve quality and outcomes in medicine. Clinics Integrating HIV care with Psychiatric, Hepatitis C, Psychological, and Social Services have been shown to improve viral suppression rates. The rate of psychiatric illness among HIV positive persons has been shown to be greater than that within the general population, though with varying estimates of prevalence. Depression and suicide rates are more than double that of the general population. This research was performed because an integrated HIV / Psychiatry care setting is not always feasible to implement, and it is necessary to evaluate barriers to care in the traditional setting.

Method: A psychiatric presence was created within the HIV Clinic via an elective resident rotation. Familiarity with psychiatric services offered within Psychiatry Department was promoted during a 1 month rotation in Jan 2012. Following completion of this rotation, the resident facilitated urgent on-campus referrals for standard psychiatric care. Referrals included standard psychiatric evaluation by resident and staff psychiatrist, medication management, and referrals within the Psychiatry department for psychotherapy services. Patients were followed within the psychiatric department for routine care.

Results: A total of 13 outpatient referrals were made from 3/2012-11/2012. Of 13 referrals, 6 scheduled and completed appointments and all continue to follow with psychiatry. PHQ-9 was administered upon initiation of psychiatric care, with mean score 16.3 (range 10-21). Most common reasons for referral were substance abuse and depression. Most common diagnoses among patients completing visits were Major Depression and Generalized Anxiety Disorder.

Conclusion: Non-integrated care is associated with poor visit completion rates in outpatient setting. Although this is a small sample size, it may be inferred that visit completion rates may benefit from proximity in location and scheduling offered by an integrated care setting. Further study is warranted.

Poster No. 1-23

CHARACTERISTICS OF LOW RESILIENT DEPRESSED PATIENTS

Lead Author: Eunsong Woo, M.D.

Co-Author(s): Sang-kyung Lee, MD, Young-Min Choi, MD, PhD, Bongseog Kim, MD, PhD, Dong-Woo Lee MD, PhD, Min-Sook Gim, MD, PhD, Jun-Hyun Park, MD, PhD

SUMMARY:

Objective: The aim of this study was to find characteristics of low resilience group in patient with depressive disorder.

Methods: High (?75th percentile), medium, low (?25th percenttile) resilience groups were classified on the basis of Connor-Davidson resilience scale (CD-RISC). Correlation and regression analysis were done about CD-RISC and parenting behavior inventory, temperament and characteristics inventory. After 3 months, CGI-S, and PHQ-9 scores were followed up.

Results: 64 patients completed the study. Religious or nonreligious state showed significant difference among the three groups (p=.034). In low resilience group, mean age and reasonable explanation of the mother was significant lower compared with the high resilience group (p=.015). Novelty seeking, persistence, self-directedness, cooperativeness and self-transcendence were lower, and harm avoidance was higher in the low resilience group. Resilience score were significantly correlated with the percentage of improvement on PHQ-9(p=.031) and CGI-I(p=.001) score. In regression analysis about CD-RISC, state hope scale and persistent were coefficient of determinant.

Conclusion: These findings imply that a mother's rearing attitude, giving a reasonable explanation for problems encountered could affect a child's resilience. Persistence can be believed of as a core temperament that reflects the concept of resilience well. Low resilience is implicated as poor prognostic factor in depression recovery.

Poster No. 1-24

CHILDHOOD DISINTEGRATIVE DISORDER: CASE REPORT AND REVIEW OF LITERATURE

Lead Author: Manan Jayvant Shah, M.D.

Co-Author(s): Vishal Madaan, MD

SUMMARY:

Objectives: a) Understand the rare presentation of and common comorbidities associated with childhood disintegrative disorder (CDD). b) Review the diagnostic dilemmas and management strategies for individuals with CDD.

Abstract: Childhood disintegrative disorder (CDD) is a rare condition of unknown etiology characterized by regression of language, social function, and motor skills after a period of fairly normal development during the first 2 years of life. CDD, also known as Heller's syndrome, is a devastating condition with poor prognosis, affecting both the family and the individual's quality of life, often resulting in permanent disability. Pooled prevalence for CDD is reported at about 1.7 per 100,000, and predominantly affects males. We describe the case of a 5-year-old boy with Attention Deficit/Hyperactivity Disorder who presented with speech delay and regression of developmental milestones. He began to have increasingly aggressive behavior about a year ago, along with acute changes in motor skills that led to multiple falls, changes in his ability to climb stairs, increased clumsiness and inability to use utensils. This was accompanied by changes in language skills including impaired ability to make specific sounds and use of a lot more "baby talk". Over the next few months, he lost diurnal & nocturnal control of bladder and bowel. On exam, he was of small stature and had facial asymmetry with skull flattening on one side and hemihypertrophy on the other side of his body. A brain MRI revealed plagiocephaly while an EEG and metabolic workup were normal. Initially, he received intensive in-home behavioral therapy that did not help with the aggressive behaviors. His aggression and irritability improved somewhat with long acting methyl-

phenidate and long acting clonidine, and he continues to be followed. Given that CDD is a poorly understood condition with no clear-cut treatment and poor prognosis, management involves a detailed work-up, followed by supportive care and often symptomatic treatment. A significant percentage of patients have seizures and hence, an EEG is an important component of the work-up. Metabolic disorders such as mucopolysaccharidoses & lipid storage disorders and neurological disorders such as SSPE & tuberous sclerosis have been associated. Landau-Kleffner syndrome, another rare condition with seizures and loss of language skills should also be considered. A detailed cytogenetic evaluation is recommended in all subjects with CDD, especially those with intellectual disability, abnormal EEG patterns, seizures, muscular hypotonia, severe motor & gait problems or dysmorphic features. Parents & guardians must be adequately supported as they often are sole caregivers of affected children. Behavioral treatment strategies, like Applied Behavioral Analysis, are often used to shape appropriate behavior, while psychotropic medications and anti-epileptics are the mainstay for managing aggression & seizures respectively.

Poster No. 1-25

CLINICAL CORRELATES OF AMPHETAMINE TREATMENT FAILURE IN CHILDREN WITH ADHD

Lead Author: Sneha Jadhav, M.D.
Co-Author(s): Kamal Bhatia, MD, Ann Manzardo, Ph.D

SUMMARY:
OBJECTIVE: Attention deficit hyperactivity disorder (ADHD) affects approximately 9.5 % or 5.4 million kids [CDC], and of these, about 2.7 million receive pharmacological treatment. Several treatment options exist but the ability to predict response, tolerability and side effect profile for individual patients is limited. The goal of this chart review is to examine clinical correlates that predict failure (ineffectiveness/ side effects) of Amphetamine (AMP) treatment in children with ADHD. The specific patient characteristics chosen for this study were age, sex, race [demographic], socioeconomic status and co-morbidities. The goal of this chart review is to help clinicians make more informed and precise treatment decisions for children based on their clinical characteristics.
METHODS: A systematic chart review was conducted on 74 children (male, N= 44; female, N=30; mean (SD) age= 10.2 (3.4) years) who were treated for ADHD with AMP at the University of Kansas Medical Center- Child Psychiatry Outpatient clinic between July, 2010 and June, 2012. Subjects were 73.3% Caucasian, 10.7% African-American and 16% other races. All subjects had a diagnoses of ADHD based on Vanderbilt scale and DSM-IV TR criteria. Of this population 34 children were diagnosed with combined ADHD, 10 were inattentive type, 12 were hyperactive type and 18 were NOS type. All subjects had follow-up data available for a period of at least 1 year. Frequencies, percents and cumulative percents were generated and group comparisons were analyzed using the Chi Square test
RESULTS: 17 (23%) children discontinued AMP treatment due to lack of response/ inefficacy (AMP-I). AMP-I was not associated with gender, race, socioeconomic status, psychiatric co-morbidity or their treatment. Children diagnosed with the combined type (type-3 in this study) ADHD were significantly less likely to experience treatment failure due to lack of effectiveness than all other types (3.6 OR, 95% CI= 1.0 to 12.4 for non-type 3 ADHD). Twenty-six (35%) children discontinued AMP treatment due to the presence of severe side effects (AMP-SE). Side effects included irritability (46%), weight loss (38%) and Insomnia (4%). AMP-SE was not associated with race or socioeconomic factors; however, AMP-SE was significantly more likely to occur in males (N=19, 43%) compared to females (N=7, 23%, p=0.08).
CONCLUSIONS: Failure to respond to AMP treatment in ADHD may be related to neuro-biological differences between combined- ADHD and the other forms [hyperactive/ Impulsive/ NOS] which influence the effectiveness of stimulant therapy. The results suggest different strategies may be needed to address different sub-types of ADHD. On the other hand, toxicity may result from gender-based, biological factors that might be related to X-linked genetic factors related to monoamine metabolism (e.g., Monoamine Oxidase). Confirmatory studies with a larger sample size are needed to confirm the present study findings.

Poster No. 1-26

COMBINATION OF FLUOXETINE AND NALTREXONE AN EFFECTIVE TREATMENT OF PARAPHILIAS

Lead Author: Shanel Chandra, M.D.
Co-Author(s): Yasir Ahmad, MD, Anbreen Khizar, MD

SUMMARY:
Paraphilias can be defined as a disease spectrum consisting of sexual fantasies, urges or behaviors involving non-human objects and non-consenting humans and requires both intensive psychological and pharmacological treatment. Persons who comes in for psychiatric treatment usually comes in due to court mandated psychiatric evaluation, as with our case presented below. As paraphilias involves both obsessions and compulsions, it is most of the times treated as an OCD, cognitive behavior therapy playing a major role. Many studies have shown effectiveness of Fluoxetine in Obsessive compulsive disorder. We present a case of a 77 yr old male with past psych history of impulse control, specifically paraphilia who came in for psych evaluation after being arrested for exposing himself naked to a woman. He had had these obsessive thoughts of exposing himself in a sexually inappropriate way to women along with an urge to rub himself against women in buses since he was 14 yrs of age, with multiple detentions for the same. Patient was given AXIS-1 diagnosis of Exhibitionism, Frotteurism , Voyeurism, sexually attracted to females and was started on naltrexone 50mg daily, with fluoxetine being having been started at 10mg and finally increased to 40 mg daily over next few visits.The patient reported that his socially inappropriate urges had decreased and the patient has had no recurrence till date. The patient was still masturbating about 3 times/week. This report shows the effectiveness of high dose of fluoxetine with adjuvant Naltrexone in treating paraphilias with selectivity towards pathological sexual urges and preservation of natural sexual desires. Discussion further needs exploring the role of serotonin in sexual paraphilias and using other adjuvant treatment modalities with Fluoxetine being a part of the initial treatment regimen.

Poster No. 1-27

DE NOVO CATATONIA: RESPONSE TO COMBINATION OF LORAZEPAM AND RISPERIDONE: A CASE REPORT

Lead Author: Nilesh Suresh Tannu, M.D., M.S.
Co-Author(s): Olaoluwa O. Okusaga, MD, MScPHR

SUMMARY:
When catatonia is the presenting symptom complex in an individual without prior psychiatric or neurological history, it can be labeled as de novo catatonia. We now report on a case of a thirty year old African American female with no prior psychiatric diagnosis, who presented with de novo catatonia. Prior to presentation at our in-patient psychiatric hospital, she was medically evaluated over a 4-day period at a general hospital. She underwent basic labs, CT scan of the head, MRI of the brain, MRA of the head, EEG and CSF microbiological studies; all of which were negative, and she was medically cleared. She received a trial of ziprasidone at the general hospital without response, and was therefore transferred to our in-patient psychiatry facility. On admission to our hospital, the patient's Busch Francis Catatonia Rating Scale (BFCRS) score was 25. She was selectively mute with a blank stare and had intermittent episodes of purposeless movements alternating

with periods of immobility. Oral ziprasidone 40mg twice a day was continued on admission and lorazepam 1 mg three times daily orally was added to target catatonia. The BFCRS score by the third day of admission to our hospital reduced from 25 to 23, implying a low response to ziprasidone and lorazepam. We therefore discontinued ziprasidone and oral risperidone 2 mg in the morning and 1 mg at bedtime was started (lorazepam was continued at the same dose). By the fifth day of admission, our patient no longer had mutism, and the purposeless and bizarre movements had resolved. She was discharged after 6 days of inpatient psychiatric treatment, with a BFCRS score of 0. Her discharge medication was risperidone 3mg/day. This case illustrates the utility of lorazepam-risperidone combination in the treatment of de-novo catatonia and is consistent with findings from previous case reports. Oftentimes, clinicians are very cautious and sometimes reluctant to use antipsychotics specifically the typical antipsychotics in catatonia. Since in some instances, they have been associated with the development of malignant catatonia. However, atypical antipsychotics, in combination with benzodiazepines appear to be effective in relieving certain variants of non-malignant catatonia. The possible mechanism of action might be the antagonism of 5HT2A which can enhance dopaminergic neurotransmission in the prefrontal cortex.

Poster No. 1-28

DELIRIUM, PSYCHOSIS, CATATONIA, AND MANIA: A CASE REPORT OF A YOUNG MAN WITH ANTI-NMDA-RECEPTOR ENCEPHALITIS WITHOUT TUMOR

Lead Author: Nicholas Tamoria, M.D.
Co-Author(s): Jonathan Wolf, MD

SUMMARY:

Introduction: Anti-N-methyl-D-aspartate receptor encephalitis is a recently characterized auto-immune and paraneoplastic neurological disorder. Unknown prior to 2007, data suggests it is relatively common, occurring >4 times as frequently as HSV-1, VZV and WNV encephalitis. It presents with distinct psychiatric syndromes including delirium, psychosis, catatonia, and mania. Other symptoms include seizures, dyskinesias, aphasias, hypoventilation, and autonomic instability. Diagnosis requires specific testing for antibodies in serum and CSF not usually included in standard testing batteries. Female children and young adults are more frequently affected; occurring with and without tumor association (typically ovarian teratoma); and relapse may occur. Appropriate treatment includes behavioral control, immunotherapy, & tumor resection. Approximately 75% recover with mild sequela while 25% suffer severe disability or death.

Case: A 25 year old white male active duty US Sailor stationed in the Middle East presented to a local hospital with mutism, agitation, and disorientation. He was diagnosed with delirium tremens but did not respond to treatment. He was transferred to a US medical center where he was found to be psychotic with catatonic features including verbigeration, echolalia, echopraxia, and bizarre posturing. Olanzapine and lorazepam treatment were initiated. Brain MRI, EEG, and serum lab tests were normal but CSF was notable for pleocytosis without infectious etiology. He received one course of IVIG and IV methylprednisolone for presumed encephalitis. Specialized CSF analysis returned positive for anti-NMDA receptor antibodies. Malignancy workup was negative. He received 1 course of cyclophosphamide followed by 4 cycles of IV rituximab resulting in improvement of his symptoms and mental status. VEEG was negative. After finishing chemotherapy he developed a manic episode. He responded to divalproate and quetiapine treatment and eventually his mental status returned to baseline.

Discussion: It is important that psychiatrists are familiar with this disorder as the initial presentation invariably prompts early psychiatric evaluation. Dynamic symptom profiles often marked by agitation require ongoing psychiatric management. This case report highlights the disorder's multiple psychiatric presentations; the role of psychiatry in diagnosis and treatment; and the importance of a multi-disciplinary approach.

Conclusion: Anti-N-methyl-D-aspartate receptor encephalitis is a relatively new, prevalent, and lethal disorder which should be on the differential diagnosis in the psychiatric evaluation of a patient with dynamic psychiatric syndromes and supporting medical/neurological findings. A high index of suspicion, specialized lab testing, and multi-disciplinary approach are essential for appropriate treatment.

Poster No. 1-29

DEPRESSION IN THE ONCOLOGY POPULATION AND THE ROLE OF STIGMA

Lead Author: Jason Douglas Domogauer, B.S.
Co-Author(s): Sarah Quinn, MD, Rashi Aggarwal, MD

SUMMARY:

Depression is a highly prevalent disease that is often found in the oncology patient population. Studies have found the prevalence rate of depression in such populations to be between 13% (Alexander, 1993) and 39.6% (Morton, 1984), with general estimates to be between 10% and 25% (Pirl, 2004). Such prevalence rates are more noteworthy when compared to the general population, which has a depression prevalence rate of 6.7% (Kessler, 2005). In spite of the fact that oncology patients are more likely to need treatment for depression, studies have found high rates of under-recognition and under-treatment of depression. Therefore, research efforts have been aimed into identifying factors that are associated with patients who do not seek care, treatment discontinuation, and lack of patient medication adherence. One identified factor is patient-perceived stigma of mental health treatment (Brown et. al., 2010; Sirey, et. al., 2001). In this study, we summarize the literature available on depression in the oncology population, with emphasis on the role of stigma as a potential barrier to treatment. Additional suggestions are made based upon our own personal experiences.

Poster No. 1-30

DEXTROMETHORPHAN-INDUCED PSYCHOSIS

Lead Author: Dhruv Modi, M.D.
Co-Author(s): S.Suresh Sabbenahalli MD, James C Patterson II MD, PhD

SUMMARY:

Over-the-counter medications available without prescriptions are generally viewed safe for public consumption. However, when used in excess, these medications can lead to adverse consequences. There are multiple over-the- counter medications that have potential for abuse, and dextromethorphan is one such drug. We describe case series of Dextromethorphan abuse in different age groups which presented with severe psychiatric manifestations. These cases highlight the importance of carefully reviewing both prescribed and non-prescribed medications that are being used by patients, especially in the emergency care setting.

Case Reports: We reviewed three different cases presented with DXM abuse. In the first case, 46 y/o single white female was brought by police after she allegedly stabbed her demented 78 y/o aunt repeatedly in the head and then cut her wrist in the attempt to kill herself. She was very agitated, paranoid and endorsed command-type auditory hallucinations. Pt reported self-medicating at home to treat the withdrawal symptoms from oxycodone with DXM cough syrup. In the remaining two cases, 19 y/o white males were brought into the hospital for psychiatric evaluation after abusing DXM and became very violent, aggressive and paranoid.

Discussion:

Dextromethorphan overdose results in neurobehavioral effects similar to ketamine and phencyclidine which causes severe agitation, hallucinations "out of body" sensations and disso-

ciation.DXM is generally not detected in routine urine drug screen tests and there have been reports of false positive results for phencyclidine on tests done by liquid chromatography. Abuse of DXM is more commonly seen in young population (12-25 yrs.); only a limited number of cases are reported among middle age population. In the above discussed cases, Patients are presented with psychosis after abusing DXM. There are several factors that could have led to this choice of abuse such as its easy availability, its abuse potential, its similar or limited dissociative anesthetic like euphoric effects and opioid like actions and misleading information available on the internet about its abuse.
Conclusion: Dextromethorphan is an easily accessible and potentially-abused over the counter cough medication which is life threatening when taken in excessive amounts. Hence,it is a worthwhile endeavor for authorities to closely monitor products containing dextromethorphan (similar to pseudoephedrine), and to keep these products behind the counter under the observation of a pharmacist. Also, it is vital for health care providers to perform detailed assessment of all the over- the-counter medications used by patients and their drug-drug interactions.

Poster No. 1-31
DIAGNOSTIC STABILITY OF DSM-IV-TR MAJOR DEPRESSIVE DISORDER WITH PSYCHOTIC FEATURES IN KOREA
Lead Author: Seung Young Oh, M.D.
Co-Author(s): Sun Ju Kim, Won Sub Kang, Jong Woo Kim
SUMMARY:
Objective: Several studies suggest that major depressive disorder (MDD) with psychotic features may be a distinct disease with variable aspects in clinical features, such as treatment-response, course and outcome, and of some biological measures. The aim of this study was to evaluate diagnostic stability of the inpatients with MDD with psychotic features in Korea retrospectively.
Method: A medical record review of 79 patients admitted to a university hospital with the diagnosis of MDD with psychotic features in a period from 2002 to 2012 was conducted. An analysis of clinical characteristics, such as diagnostic changes, concomitant psychotic symptoms, familial psychiatric histories and suicidal attempts from the medical records of the patients was conducted. We investigated diagnostic stability of MDD with psychotic features and the factors that can predict prognosis.
Result: Among 79 patients whose initial diagnoses were MDD with psychotic features, DSM diagnoses of 6 patients (7.6%) switched to bipolar disorder, 3 patients (3.8%) switched to schizophrenia. 26 patients (32.9%) had hallucinations. On the other hand, 71 patients (89.9%) had delusions, they had guilty, persecutory and somatic delusions, in order. Also, 38 patients (48.1%) had mood-congruent psychotic symptoms. 25 patients (31.6%) had familial psychiatric histories, 38 patients (48.1%) had suicidal ideations and 16 patients (20.3%) had attempted suicide at least once. However, no significant demographic, social and clinical predictors were found.
Conclusion: MDD with psychotic features compared to non-psychotic depression, was more likely to switch to bipolar disorder, and it had more familial psychiatric histories, more suicidal ideations and attempts. The diagnosis of MDD with psychotic features was found to have a high retrospective stability.

Poster No. 1-32
DOES CHECKING YES MAKE A DIFFERENCE? MENTAL HEALTH SCREENING AND REFERRAL PRACTICES IN A SOUTHERN URBAN HIV CLINIC
Lead Author: Stephanie Rene Chapman, D.O.
Co-Author(s): Trimaine Brinkley, M.D., Shilpa Srinivasan, M.D., Jason Gandy, M.D., Divya Ahuja, M.D.
SUMMARY:
The Midlands Care Consortium (MCC) provides comprehensive medical and support services for financially needy HIV patients in the midlands of South Carolina. In January 2010, the clinic began assessing the psychiatric needs of this unique population through a screening questionnaire that identifies past and present symptoms of depression, anxiety, mania, psychosis and substance abuse. Once a need is identified, that patient is then supposed to be referred for psychiatric evaluation. However, it is unclear as to the effectiveness of this questionnaire in identifying and meeting the needs of patients. The purpose of the research study is to determine if the screening process is adequately identifying those in need of psychiatric services and if they are in fact being referred for care by performing a chart review. The study's goal is to determine if this screening questionnaire is a useful tool for identifying psychiatric needs in this setting, to identify improvements that need to be made in both the questionnaire and the referral process, and to educate other physicians and researchers about the unique population at the MCC.

Poster No. 1-33
DYSKINESIA OF POSTENCEPHALITIC ORIGIN: THE CAUDATE TO BLAME
Lead Author: Yi Min Wan, M.B.B.S., M.Med.
Co-Author(s): Dr. Simon Ting, Prof. Lo Yew Long, A/Prof. Lee Tih Shih
SUMMARY:
The caudate nucleus is the principal junction of basal ganglia–thalamocortical circuits, connecting the associative cortex with deeper anatomic structures via cortico-pallido-nigra-thalamo-cortical loops. To date, there are rare reports of movement disorders occurring after an episode of encephalitis, described mainly in children. Here, we describe with interest, a novel case of abnormal involuntary movements presenting in an adult female after viral encephalitis. She was a 24 year-old female university student (with no significant past medical, psychiatric or substance history) admitted to the Singapore General Hospital (SGH), presenting with a 1-week history of fluctuating fever associated with a confusional state, neck stiffness, progresssive mutism, loss of appetite, poor sleep, headache, and lethargy. There were no rash, syncopal episodes, focal weakness, or seizures. She has no significant family history of mental illness, movement disorder, or degenerative disease. The first MRI brain done on admission revealed symmetric T2 hyperintensity of the bilateral caudate nuclei, putamina, and mesial temporal lobes, with the lateral ventricles mildly effaced by the swollen caudate nuclei. CSF analysis revealed a white blood cell (WBC) count of 8, a red blood cell (RBC) count of 3, a protein level of 0.42 g/L, and a glucose level of 3.3 mmol/L. There was no significant travel history. She was treated as for meningoencephalitis. Despite good initial recovery, she developed unusual movement abnormalities on the 10th day of admission. These were described as intermittent, symmetrical, large-amplitude flailing of her upper limbs in particular, involving mainly her proximal muscles, with associated mild athetoid movement of both her lower limbs at rest, as well as a rotational quality to her truncal movements at intervals - partially suppressible, and markedly decreased during sleep. Her daily activities (such as eating) were significantly affected. Neurological examination was otherwise normal. With poor response to benzodiazepines and progressive episodes of agitation, she was eventually referred to the Psychiatry Consultation Liaison (CL) team to exclude anxiety, akathisia, or functional hyperkinetic disorder. There were no evidence of mood or anxiety disorder. The CL team diagnosed her with Movement Disorder likely due to an organic cause, and started her on Olanzapine Zydis 2.5mg twice daily. Benzodiazepines were discontinued in the context of paradoxical agitation. Over the next few weeks, her restlessness and abnormal movements resolved, with repeated MRI brain showing interval improve-

ment in the signal changes. She was discharged with Olanzapine 5mg twice daily. Montreal Cognitive Assessment (MoCA) score upon discharge showed 18/30, with deficits in delayed recall, visuospatial functioning, repetition, and conceptualization. 3 weeks later, her MoCA score was 21/30, and by 6 weeks, she had returned to school and performing at baseline.

Poster No. 1-34

EARLY ONSET AND IRREVERSIBLE TARDIVE DYSKINESIA-LIKE MOVEMENT DISORDER IN A NEUROLEPTIC-NAÏVE PATIENT TREATED WITH ARIPIPRAZOLE: LESSONS LEARNT

Lead Author: Rakesh Goyal, M.B.B.S., M.D.
Co-Author(s): Aikaterini Fineti MD, Cecilia Fleser MD

SUMMARY:
INTRODUCTION: Movement disorders are relatively common side effect of treatment with antipsychotic medication with tardive dyskinesia (TD) being most serious and potential irreversible among them. Traditionally first generation antipsychotics are the neuroleptics considered to have higher risk of TD as compared to second and third generation antipsychotics. Aripiprazole is a third-generation antipsychotic with a novel mechanism of action. Till recently risk of movement disorders with use of aripiprazole has been unknown. This report underscores the risk of disabling and potentially irreversible TD like movement disorder occurring early in the course of treatment with aripiprazole (within 3 months). Clinician needs to be very vigilant while using aripiprazole, especially in off-label indications and in patients with risk factors.
METHODS: A case of 52 year old Caucasian woman is discussed who presented to us with first manic episode of mixed type. Patient had past history of recurrent major depressive disorder which has been treated with nefazodne and sertraline. Patient was treated with aripiprazole and was discharged with instructions to take aripiprazole 30 mg/day. During follow up, patient developed new dyskinetic oro-facial movements, roughly after 10 weeks of starting aripiprazole. She was not taking any other antipsychotic/antidopaminergic medication at that time. Laboratory test and imaging studies did not reveal any other cause for her movement disorder.
RESULT: Patient's abnormal oro-facial movements could not be reversed in spite of immediate discontinuation of aripiprazole. Multiple medications were tried over the next 2 years but her movement disorder never remitted.
CONCLUSION: Above case (along with other recent reports) suggest that risk of movement disorder with aripiprazole use could be higher than previously thought. Further studies are required to find out incidence of movement disorder with aripiprazole. Aripirazole use should be preferably restricted to FDA approved indications. Clinician needs to be very vigilant about emergence of any movement disorder while using aripiprazole, especially in patients with risk factors for TD.

Poster No. 1-35

EATING ATTITUDES AMONG COLLEGE STUDENTS IN BOMBAY: A STUDY OF 3,300 STUDENTS

Lead Author: Salima K. Jiwani, M.B.B.S.
Co-Author(s): Shamsah B. Sonawalla, M.D., Meghana Srinivasan, M.A., Tanvi Ajmera, B.A., Maitreyi Nigwekar, M.A., Maherra Khambaty, B.A., Priya Shah, B.A., Rajesh M. Parikh, M.D.

SUMMARY:
Objective: Previous studies suggest a high prevalence of abnormal eating attitudes and behaviors among college students, with gender and ethnic differences (1, 2). The purpose of this study was to assess eating attitudes among college students in Bombay.
Method: 3300 students across two colleges in the Greater Bombay area were screened for eating attitudes and depressive symptoms (mean age: 19.2 + 1.1; 66.8 % women; 33.2% men, Arts: 45%, Science: 30.3%, Commerce: 15.6%, Management Studies: 9.1%). After obtaining a written, informed consent, the EAT – 26 (Eating Attitudes Test – 26) and 21-item Beck Depression Inventory (BDI) were completed by all students. A score of > 20 on the EAT-26 was considered significant for the prevalence of eating disturbances, and a score of > 16 on the BDI was considered significant for depressive symptoms. Students who scored > 16 on the BDI and/or greater than or equal to 1 on BDI-item-9 (suicidal ideation) and consented to be contacted were interviewed using the MDD module of the Structured Clinical Interview for DSM-IV-TR (SCID-P). Chi square tests, Pearson correlation co-efficient and logistic regression were used for data analysis.
Results: 13.3% of the students scored > 20 on EAT – 26. Significantly more women scored > 20 on the EAT-26 compared to men (14.1% female, 11.7% male; chi square = 3.71, P<0.05). Total scores on the EAT – 26 did not have a significant relationship with age, year in college, or stream of study. 33.7% of students with EAT-26 scores > 20 had significant depressive symptoms and 14.5% students with EAT – 26 scores < 20 had significant depressive symptoms (Chi square= 98.85, p<0.0001). There was a positive correlation between EAT – 26 total scores and BDI total scores (r= 0.318, P<0.001). EAT – 26 factors of "dieting" (r=0.250, P<0.001), "bulimia" (r=0.262, P< 0.01) and "oral control" (r=0.243, P<0.001) also showed a positive correlation with total BDI scores. There was a significant relationship between EAT – 26 total scores and suicidal ideation (BDI item 9 > 1). 10% of BDI total scores could be related to EAT – 26 total scores on logistic regression (R2 = 0.101, P < 0.001).
Conclusion: Significant eating disturbances are prevalent in this population of urban college students in Bombay. Women have a higher prevalence of eating disturbances compared to men. A third of students with eating disturbances also have significant depressive symptoms. Our findings suggest a need for appropriate interventions in this population.
References:
1) Balhara, Y. P., Mathur, S. and Kataria, D. K. (2012). Body shape and eating attitudes among female nursing students in India. Eastern Asian Archives of Psychiatry. 22 (2), pp – 70 – 74.
2) Arriaza, C. A. and Mann, T. (2001). Ethnic differences in eating disorder symptoms among college students: the confounding role of body mass index. Journal of American College Health. 49 (6), pp – 309 – 315.

Poster No. 1-36

ECONOMIC EFFECTS OF ANTI-DEPRESSANT USAGE ON ELECTIVE LUMBAR FUSION SURGERY

Lead Author: Amirali Sayadipour, M.D.
Co-Author(s): Chrisopher K Kepler, MD; Rajnish Mago, MD; Kenneth M Certa, MD; Mohammadreza Rasouli, MD; Alexander Vacarro, MD, PhD; Todd J Albert, MD; David G Anderson, MD

SUMMARY:
Objective: It has been suggested, although not proven, that presence of concomitant psychiatric disorders may increase the inpatient costs for patients undergoing elective surgery. This study was designed to test the hypothesis that elective lumbar fusion surgery is more costly in patients with under treatment for depression.
Methods: A case-control study was conducted enrolling patients undergoing elective lumbar fusion. Data was collected for this cohort regarding antidepressant usage patient demographics, length of stay (LOS), age-adjusted Charlson comorbidity index scores and cost. Costs were compared between those with a concomitant antidepressant usage and those without antidepressant usage using multivariate analysis.
Results: Patients using antidepressants and those with no history of antidepressant usage were similar in terms of gender, age and number of operative levels. The LOS demonstrated a non-significant trend towards longer stays in those using anti-depressants. Total charges, payments, variable costs and fixed

costs were all higher in the antidepressant group but none of the differences reached statistical significance. Using Total Charges as the dependent variable, gender and having psychiatric comorbidities were retained independent variables. Use of an antidepressant was independently predictive of a 36% increase in Total Charges (p=0.003). Antidepressant usage as an independent variable also conferred a 22% increase in cost and predictive of a 19% increase in Fixed Cost (p=0.04, p=0.037 respectively). Male gender was predictive of a 30% increase in Total Charges (p=0.008).
Conclusion: This study suggests use of antidepressant in patients who undergo elective spine fusion compared with control group is associated with increasing total cost and length of hospitalization, although none of the differences reached statistical significance.

Poster No. 1-37

ELEVATED LIVER ENZYMES AND URINARY INCONTINENCE IN A PATIENT WITH SCHIZOPHRENIA TREATED WITH OLANZAPINE

Lead Author: Carlos Velez, M.D.
Co-Author(s): Pilar Laborde-Lahoz, MD, Olaoluwa Okusaga, MD

SUMMARY:

Mr. J was a 20-year-old man whose first psychotic break came in mid-2008, with a second break a few months later. He was hospitalized on these occasions for two weeks and one week, respectively, and after discharge attended only a couple of clinic appointments. He gradually became reclusive, isolated himself in his room, refused to go to school and rarely spoke to family members. He did not receive any psychiatric treatment between late 2008 and mid-2012, when he again required hospitalization after reportedly punching holes in his bedroom wall with his fists. During his 2012 admission, he was given a DSM-IV-TR diagnosis of schizophrenia and started on olanzapine 10 mg/d. Blood work-up on day 2 of admission revealed normal AST but slightly elevated ALT (64; Ref 0-55). CBC, TSH and CMP were within normal limits. He exhibited significant negative symptoms (poverty of speech, flat affect, lack of motivation and social withdrawal) and had no insight into his illness. The dose of olanzapine was increased to 15 mg/d on day 5 of admission, and on day 11 he became incontinent of urine. He denied symptoms of UTI and UA was normal. He intermittently exhibited disorganized behavior and olanzapine was increased to 20 mg/d. Urinary incontinence continued daily. On day 20 of admission, lorazepam 1 mg PO bid was added to olanzapine out of concern that his negative symptoms might be related to catatonia. On day 21, AST was noted to be 151 (ref 0-40) and ALT 355 (ref 0-55). Olanzapine and lorazepam were thus discontinued. AST and ALT were measured every other day and levels continued to rise until AST peaked at 188 and ALT at 530 on day 31 of admission, after which they began trending down. On day 38 of admission, 6 mg paliperidone was started because of its relatively less-extensive liver metabolism. Liver enzyme evaluation done a week before discharge showed AST level of 49 and ALT 100. Hepatitis profile (A, B, C), bilirubin, albumin, ammonia, PT/PTT, ferritin, HIV, ANA, and ceruloplasmin were all within normal limits. However GGT was elevated (137; ref 0-65). Urinary incontinence stopped 6 days before discharge. Liver ultrasound was normal. Olanzapine has been associated with liver toxicity and urinary incontinence (Ozcanli et al 2006, Vernon et al 2000) but to our knowledge these two side effects have not been previously reported concurrently in the same individual. Elevated liver enzymes in our patient were most likely due to olanzapine as there were no concomitant medications (lorazepam was taken for only 1 day) and enzyme levels reduced significantly after olanzapine was discontinued (downward trend in enzyme levels continued even after paliperidone was started). The urinary incontinence was also likely due to olanzapine as it resolved after olanzapine was discontinued and paliperidone was started. Co-occurrence of liver enzyme elevation and urinary incontinence in the same patient is rare, but clinicians should be aware of this phenomenon.

Poster No. 1-38

ENDOGENOUS DEPRESSION IN A PATIENT WITH UNDIAGNOSED MULTIPLE SCLEROSIS

Lead Author: Anbreen Khizar, M.D.
Co-Author(s): Shanel Chandra MD, Kiranmai Yarlagadda, Rashi Aggarwal MD

SUMMARY:

BACKGROUND: Multiple Sclerosis (MS) is a chronic demyelinating disease often complicated by neuropsychiatric symptoms especially depression. The relationship between depression and MS has been speculated for a long time. It has been hypothesized that depression in MS patients is reactive and secondary to the chronic and debilitating nature of the disease. On the other hand, it is speculated that depression in MS is endogenous and most possibly a result of disease process in parts of the brain.
CASE REPORT: We present a case of a 47 year old Caucasian male with no past psychiatric or medical history who presented to the emergency department (ED) for increasingly severe depression of 8-9 month duration and also some additional but mild gait instability. He was brought in by his sister who was concerned for his well being as well as finances since patient had been accumulating his bills and also checks from his tenants for the last several months. As a result he was living in his house from which power and gas both were disconnected due to non payment. Patient reported amotivation and anhedonia with no hopelessness. He spent his days lying down on his couch not moving for hours, surrounded by pizza boxes and without taking showers for weeks. He also reported not wanting to go out of the house or meeting friends or family. In the ED, a head CT scan showed multiple areas of decreased density in the white matter. A follow up MRI brain showed extensive demyelinating lesions throughout the white matter of the brain as well as spinal cord. Patient was diagnosed with MS, admitted and started on Prednisone.
Discussion: This case suggests that depression in MS is more endogenous then reactive since our patient had all symptoms of severe depression without any knowledge of having MS. This shows that more studies need to be done to elucidate the root cause of depression in MS along with focus on isolation of the area/s of brain involved in MS leading to depression.

Poster No. 1-39

FACEBOOK: THE NEW SUICIDE NOTE

Lead Author: Wesley Hill, M.D.
Co-Author(s): Almari Ginory, DO

SUMMARY:

Background: The recent boom in social media has numerous implications for mental health issues, especially in teenagers. Cyberbullying in particular has contributed to several teenage suicides published in the literature. Yet online sites also provide a unique forum for suicidal teens to reach out for help.
Aims: To explore possible advantages that online networking sites, like Facebook, provide in identifying and intervening for those at risk for suicide.
Case Report: (Some details of this case have been altered to protect anonymity, without significantly changing the case history.) A 14 year old female with no prior psychiatric history was taken to the ED involuntarily by police after her mother found her attempting to commit suicide. The patient had told her mother she was taking a bath, locked herself in the bathroom, and then ingested 40 pills of Tylenol PM. The patient later stated she did this because she "wanted to die." She left a suicide note in the bathroom apologizing to her mother. She also posted several vague statements on various friends' Facebook walls saying goodbye and that she was sorry. Several

of these friends became concerned and contacted the patient's mother. Her mother then broke through the bathroom door and found the patient lethargic in the bath tub with pills around her. When EMS arrived, the girl was combative, screaming and had to be restrained. She was hallucinating upon arrival to the ED. Her LFTs and acetaminophen level were elevated. Acetylcysteine protocol was initiated, and she improved clinically over the next few hours. The patient was guarded during the psychiatric interview and disclosed little information; however she did say that she "bottles up" her feelings and does not talk to anyone about them. Collateral information obtained from the mother suggested that the patient had been lonely since they recently moved to a new town, separating the girl from her ex-boyfriend. The patient's current boyfriend was also present at the hospital. He reported that he and all their friends thought the patient was, "A really happy person," and were quite surprised by her actions.
Conclusions: The detrimental effects of social media sites, for example, cyberbullying, suicide pacts and sites encouraging suicide, have been popularized in the media and are known to contribute to teen suicides. The prospect of using such sites for suicide prevention is an important consideration to make as well. There may be warnings signs easily noted on social networking sites such as high risk behaviors (drinking, smoking, and promiscuity), suicidal threats, and suicide notes. Both parents and providers should be aware of possible "cries for help" and other important collateral information that can be gathered from these sites.

Poster No. 1-40

FACTORS ASSOCIATED WITH TREATMENT CONTACT FOR MANIA IN A REPRESENTATIVE COMMUNITY SAMPLE OF ADULTS WITH BIPOLAR I DISORDER

Lead Author: David Matthews, B.Sc.
Co-Author(s): Ayal Schaffer, MD, Benjamin I Goldstein, MD, PhD

SUMMARY:
Objectives: This study investigates the factors associated with treatment contact for mania among adults with bipolar I disorder (BD-I) in the United States.
Methods: Data were obtained from the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC). A total of 1,411 individuals with lifetime BD-I were identified using the NIAAA Alcohol Use Disorder and Associated Disabilities Interview Schedule-DSM-IV Version (AUDADIS-IV). Respondents with treatment contact for mania in their lifetime (n = 575, 40.8%) were compared to respondents who had never been treated for mania (n = 836, 59.2%). Variables that were significant ($p < 0.05$) in bivariate analyses were included in a stepwise backwards logistic regression to determine factors independently associated with treatment contact.
Results: Demographic variables significantly associated with mania treatment contact included: early-middle adult age (30-64), female sex (OR = 1.51, 95% CI 1.15-1.98), white/non-Hispanic race/ethnicity (OR = 1.35, 95% CI 1.03-1.75), greater than high school education (OR = 1.50, 95% CI 1.06-2.10), and unemployment (OR = 1.97, 95% CI 1.43-2.71). In addition, clinical variables significantly associated with mania treatment contact were: >2 manic episodes (OR = 1.40, 95% CI 1.09-1.81), positive forensic history (OR = 2.21, 95% CI 1.48-3.32), irritable mood (OR = 1.52, 95% CI 1.08-2.14), presence of mixed episodes (OR = 2.06, 95% CI 1.59-2.67), and comorbid panic disorder (OR = 1.77, 95% CI 1.33-2.35).
Conclusions: Present findings confirm several variables previously associated with treatment contact for mania, and identify several novel variables, including unemployment and positive forensic history. They also suggest that treatment contact is associated with mania that is not purely elated, in particular with irritable mood and mixed episodes. Further study is needed to better understand the root causes of under-treatment of mania in BD-I, and to identify strategies for increasing rates of treatment.

Poster No. 1-41

FINDING A PATIENT WITH SCHIZOID PERSONALITY DISORDER: A CASE PRESENTATION AND TREATMENT REVIEW

Lead Author: Matthew Gaskins, M.D.

SUMMARY:
Background: Though schizoid personality disorder (SPD) is considered a rare condition with a prevalence estimated to be<1% of the general population it is thought the prevalence is underestimated due to the decrease likelihood for the patient to seek treatment due to the egosyntonic nature of SPD when compared to other Axis II conditions. Because of this infrequent presentation many providers may not diagnose or treat SPD outside of standardized tests.
Case: Patient is a 34 yo AA female with no psychiatric history who originally presented with memory issues after being referred by her primary care provider for further evaluation of possible "dissociative fugue." The fugues were described as 1-2 minutes of lapsed awareness of surroundings while driving. These were not particularly upsetting to the patient and the initial resident worked her up for medical related memory issues. All of which returned with no explaiation. During her initial evaluation she also endorsed difficulty with sleep, low interests isolation, irritability, occasional tearfulness and anhedonia. Because of these symptoms, she was given a diagnosis of MDD single episode. After some several appointments gathering more background on the patient, she agreed to a trial of an SNRI which decreased tearfulness. Her initial evaluation was also noteworthy was her father with a Schizoaffective disorder. Her father was often paranoid about his family plotting against him. Her employment history included several jobs that were all characterized as computer data entry. Notable on MSE was constricted affect that existed for the majority of our sessions. To further explore the patient's symptoms, she agreed to come in every 1-2 seeks for psychodynamic psychotherapy. During these sessions, it was noted that her symptoms appeared more related to preferences toward solitary hobbies and habits learned from her father and not organic depression. I reviewed my DSM-IV TR for the personality disorders and felt she met 5 of the 7 criteria (4 needed for dx) for SPD. The patient showed improvement in functioning, improved mood, and expressed broader affect with me while continuing to prefer solitary activities. Eventually, the patient and I reviewed SPD and she endorsed 6 of the 7 criteria. Learning the diagnosis the patient became initially tearful, but was able to take solace that she was not the only one with the condition. She has since shown improvement with psychodynamic therapy focusing on helping the patient gain further insight into her SPD. She has used online resources to help connect with other patients with SPD. She has also increased her social connectedness through her church and her employers walking groups.
Goals: The goals of this poster are to review patient's presentation, identify the thought process with diagnosis, discuss treatment, and review literature regarding history, epidemiology, and recommended treatment options for Schizoid Personality Disorder.

Poster No. 1-42

FIRST EPISODE OF PSYCHOSIS: WHEN DO WE OBTAIN NEUROIMAGING?

Lead Author: Amita D. Mehta, M.D.
Co-Author(s): Gary Swanson, MD

SUMMARY:

Introduction: A complete psychiatric assessment, including a medical and psychiatric history, physical examination, and mental status examination, must be conducted before the initiation of any clinical and diagnostic testing. That will guide the clinician their choices for relevant, cost-effective laboratory testing. Laboratory costs accounted for 10%–12% of total health care costs. Psychotic manifestations are rare, but it can be the presenting features of intra-cranial tumours. This Case help us decide when should we obtain neuroimaging, is it cost effective, how many psychiatrist/ ER physician follow this protocol?

Case: A 60-year-old African American female with history of seizure disorder & no past psychiatric history, was brought to the hospital on 302 commitment petitioned by landlord for paranoid behavior of last 30days. Her physical exam and routine laboratory workup was normal except CT scan: Ventriculo-megaly, Hydrocephalus & Multiple hyperdensities within the right temporal region. Follow up MRI : includes ganglioma, oligodendroglioma. Patient was admitted under Neurolosurgical service and appropriate treatment was given.

Study: IRB approved research was conducted by calling/ emailing Allegheny county mental health unit department chairman. 71% said they follow APA guideline of performing neuroimaging in first episode of Psychosis but no institute finds this test to be cost-effective.

Conclusion: More extensive laboratory screening may be required for several categories of patients: elderly individuals, institutionalized persons, persons of low socioeconomic status, individuals with a high degree of self-neglect, persons with alcohol or drug dependence, and those with cognitive impairment or fluctuating mental status. These patients may be less able to give a coherent or complete clinical history, or to have higher burden of complex medical illnesses, and thus require more "detective" work in the form of laboratory workup.

(1)http://psychiatryonline.org/content.aspx?bookid=28&sectionid=2021669#137162

(2) Structural neuroimaging in psychosis: a systematic review and economic evaluation.

(3) What Investigations Are Ordered in Patients with First-episode Psychosis? Allan Shefrin, M.D. (PGY2), Derek Puddester, M.D., Stephanie Greenham, Ph.D.,Lise Bisnaire, Ph.D., Hazen Gandy, M.D.

Poster No. 1-43

FLUOXETINE-INDUCED TRANSIENT PSYCHOSIS

Lead Author: Mona Amini, M.B.A., M.D.

SUMMARY:

Abstract: Ms. A is a 52 year-old Hispanic female with a past psychiatric history of Major Depressive Disorder and PTSD with a history of numerous SSRI/SNRI medication trials involving sertraline, venlafaxine, and citalopram. Historically, these medications produced either problematic adverse effects or lack of benefit after adequate trials, but without development of psychosis. She was initiated on low-dose fluoxetine for alleviation of major depressive and anxiety symptoms. Within two weeks, she began experiencing psychotic symptoms of paranoia, auditory halluci-nations of mumbling voices and "knocking" on her front door and visual hallucinations of women or animals. The patient did not develop any signs or symptoms consistent with mania. Thought to be a worsening of the patient's depression, she was initiated on low-dose haloperidol which led to severe akathisia. She was then consequently switched to loxapine for less adverse effects. Even with initiation of these antipsychotic medications, the patient's psychotic symptoms persisted. Gradual discontin-uation of fluoxetine was then performed, with eventual resolution of symptoms within three weeks. Although fluoxetine-induced mania has been well documented, cases of the antidepressant inducing psychosis have been rarely recorded. Patients may be vulnerable to exacerbation of psychotic symptoms from SSRIs when they have concurrent symptoms of psychosis. Treatment with SSRIs may even result in precipitation of psychosis in the setting of an atypical symptom presentation of depression. Fluoxetine-induced hyperdopaminergia has been suggested as the mechanism of paranoid delusions via a 5HT-3 receptor-mediated effect. More investigation is needed to understand and help prevent SSRI-induced psychosis, with particular attention to fluoxetine.

Poster No. 1-44

HIGH POSITIVE PSYCHIATRIC SCREENING RATES IN AN URBAN HOMELESS POPULATION

Lead Author: Aravind Ganesh, B.Sc., M.D.
Co-Author(s): David Campbell, MD MSc, Janette Hurley, MD CCFP, Scott Patten, MD PhD

SUMMARY:

Objective: To carry out a preliminary assessment of the utility of a psychiatric screening tool in an urban homeless population, and estimate the potential prevalence of undiagnosed and/or unmanaged mental illness in this population.

Methods: 166 participants were recruited from the Calgary Drop-in and Rehab Centre to complete a questionnaire containing six modules screening for common psychiatric disorders. Summary statistics were used in the analysis.

Results: Only 12 respondents (7%) screened negative on each of the six modules. The screening process determined that 60.2% of the sample (n=100) had probable mental illness but reported no history of psychiatric diagnosis or treatment.

Conclusions: A straightforward application of screening (in which screen-positive subjects are referred for assessment) would be difficult in this population as the vast majority will screen positive. The results highlight the tremendous burden of psychiatric symptoms in this population.

Poster No. 1-45

I WAS TRYING TO SEE GOD: RAPID CLINICAL IDENTIFICATION OF A SEROTONIN SYNDROME RESULTING FROM DEXTROMETHORPHAN OVERDOSE AND CONCURRENT LITHIUM THERAPY

Lead Author: Christopher DeBernard, M.D.
Co-Author(s): Rana Kaleemullah MD, James Brad McConville MD

SUMMARY:

LEARNING OBJECTIVES:

1. Recognize the clinical presentation of serotonin syndrome.
2. Identify the differential diagnosis of serotonin syndrome.
3. Understand the pathophysiology of serotonin syndrome.
4. Identify pharmacological agents commonly associated with false-positive results on urine drug screens for PCP.
5. Understand the serotonergic properties of commonly prescribed psychotropic agents and drugs of abuse.

CASE: A 20 year-old man was found wandering in a state of agitated delirium. Search of his person revealed hospital discharge paperwork dated yesterday, indicating a diagnosis of bipolar disorder and prescriptions for olanzapine and lithium. Now in four-point restraints; lorazepam drip; arousable but unable to sustain attention; diaphoretic. Afebrile; tachycardic; hypertensive. Rotary nystagmus versus ocular clonus; mydriasis. All extremities flaccid to passive motion; no cogwheeling; no rigidity. Hyperreflexic lower extremities. Spontaneous clonus in all four extremities; sustained clonus with ankle flexion. Creatine phosphokinase: 3,745. Lithium level: 0.37. Urine drug screen (UDS): positive for phencyclidine (PCP). Additional history reveals recent admission for diphenhydramine- and dextromethorphan-induced delirium.

DISCUSSION: The emergency-room (ER) psychiatrist is frequently tasked with evaluating agitated delirium in the setting of psychotropic administration and a positive UDS. While most toxidromes are self-limited, it is important for the ER psychiatrist to have a methodical approach to determining the cause of the delirium to ensure appropriate evaluation for life-threatening medical emergencies. Serotonin syndrome (SS) and neuroleptic malignant syndrome (NMS) are medical emergencies associated with psychotropic administration. Differentiation can be complex, especially when features of both syndromes are present and the patient has taken both serotonergic and neuroleptic agents. Accurate diagnosis will allow for selection of the proper treatment and guide the clinician's approach to resumption of psychotropics. Diagnosis of SS is made using the Hunter Serotonin Toxicity Criteria, which have a sensitivity of 84% and a specificity of 97%. NMS is a diagnosis of exclusion with a broad differential. Once diagnosed, severity is graded using the Woodbury Stages of the NMS-related spectrum, which are defined by clinical presentation and used to guide treatment. This physical exam meets Hunter Serotonin Toxicity Criteria, thus indicating a diagnosis of SS. But what was the serotonergic agent? Dextromethorphan, a serotonin reuptake inhibitor that the patient is known to abuse, has cross-reactivity with our UDS for PCP. Lithium, a mood stabilizer, is also known to increase the postsynaptic receptor sensitivity to serotonin. It is believed that these synergistic mechanisms of action led to this patient's serotonin syndrome.

Poster No. 1-46

IDENTIFYING BARRIERS TO THE USE OF CLOZAPINE FOR SCHIZOPHRENIA

Lead Author: Veronika M. Stock, M.D.
Co-Author(s): Raymond C. Love, PharmD, BCPP, Heidi Wehring, PharmD, Julie Kreyenbuhl, PharmD, PhD, Gopal Vyas, MD, Charles Richardson, MD, Deanna L. Kelly, PharmD, BCPP

SUMMARY:

Backround: Clozapine is the only antipsychotic medication proven effective, approved for, and recommended for treatment-resistant schizophrenia. Despite these recommenddations, prescription of clozapine in the United States is infrequent and disproportionately low relative to the estimated prevalence of treatment-resistant schizophrenia. More appropriate prescribing of clozapine could lead to improvements in outcomes. Recent studies provide convincing evidence that a significant barrier to treatment involves knowledge gaps on the part of the treating psychiatrist including lack of knowledge about clozapine efficacy and overestimation of side effects.

Methods/Design: We will examine and quantify barriers to clozapine prescribing by physicians and the relative perceived weight of various barriers using an anonymous paper-and-pencil or web-based survey. Additionally, we will examine an association of physician characteristics with clozapine prescribeing practices. The survey is designed as a multiple-choice, 56-item questionnaire which will be distributed primarily to psychiatry residents and psychiatrists from various inpatient, outpatient, and community psychiatry groups in the State of Maryland. We will select approximately 900 potential participants in order to get a 25-30% anticipated response (approximately N=225-270 or more). Participants will be asked to rate the importance of several potential barriers to clozapine prescribing, including clinical, non-clinical (administrative), and side effects related barriers. Possible interventions to improve utilization of clozapine will be suggested and participants will have an opportunity to rate and comment on them.

Clinical Implications: A recent editorial states that the "suboptimal use of clozapine is currently one of the more serious problems in the treatment and science of schizophrenia that needs to be addressed." Once barriers are identified and quantified, an intervention to improve clozapine knowledge and prescribing practices can be designed. There is reason to expect that an appropriate, efficient and well-crafted intervention could lead to the enhanced prescribing of clozapine and improved outcomes in individuals who receive this treatment. Some evidence suggests that interventions such as educational interventions, guideline implementation and academic detailing are effective in changing prescribing behavior.

Poster No. 1-47

IF OUR BRAIN DID NOT KNOW IT, OUR EYES CANNOT SEE IT: NEUROLEPTIC MALIGNANT SYNDROME ATYPICAL PRESENTATIONS: A CASE REPORT

Lead Author: Shanthi Gatla, M.B.B.S.
Co-Author(s): Praveen Narahari, MD; J Luke Engeriser, MD; William Billet, MD.

SUMMARY:

Summary: Neuroleptic Malignant Syndrome (NMS) is a rare but serious medical emergency requiring immediate medical attention. The incidence of NMS was thought to be up to 3% up until last decade, however the recent large scale studies described incidences of NMS as between 0.01%-0.02%.4, 5 As per DSM- IV- TR7 criteria the patient must have muscle rigidity and elevated temperature, along with two or more supportive symptoms to diagnose the NMS. Recent reports suggest that the atypical antipsychotic-induced NMS is less likely to show the symptoms of rigidity and hyperthermia compared to typical antipsychotic.8, 9 At times it is difficult to suspect or diagnose NMS if patients did not have the classic or core symptoms. There are few case reports of NMS atypical presentation without muscle rigidity or elevated temperature.8 we describe a case of Neuroleptic Malignant Syndrome with atypical presentation.

Poster No. 1-48

ILLNESS BELIEFS OF DEPRESSED CHINESE AMERICANS IN A PRIMARY CARE SETTING

Lead Author: Justin Chen, M.D.
Co-Author(s): Galen Hung, MD, MS; Albert Yeung, MD, ScD

SUMMARY:

Despite its well-known contribution to poor health and quality of life outcomes, unipolar depression remains underrecognized and undertreated. In the US, underutilization of mental health services by the populations with greatest need is significantly compounded among ethnic/racial minority groups, particularly Asian Americans. Prior research indicates that culturally determined explanatory models of illness shape help-seeking behavior, suggesting that investigating the relationship between Asian Americans' illness beliefs and mental health service utilization is an important area of inquiry. The current investigation is the first large-scale descriptive study of the illness beliefs of depressed Chinese American primary care patients using a standardized instrument. Chinese American patients who sought primary care at South Cove Community Health Center in Boston were randomly approached and screened for depression using the Chinese translation of the Beck Depression Inventory. A diagnosis of major depressive disorder was confirmed with the Structured Clinical Interview for DSM Disorders. Of those who screened positive, 189 patients completed an assessment of their illness beliefs using the Explanatory Model of Interview Catalogue, a validated semi-structured interview tool that probes five dimensions of illness beliefs: chief complaint, conceptualization and labeling of illness, perceptions of stigma, causal attributions, and help-seeking patterns. Subjects' responses were sorted into discrete categories by independent raters for the purposes of descriptive analysis. This poster will present the results of this study, including the distribution of chief complaint, name of problem, stigma score, perceived cause of problem, and preferred help-seeking methods identified by the Chinese American subjects. It will also report the association between stigma scores and reported perceived cause as well as preferred help-seeking methods. Future studies should compare these results with

subjects of similar socioeconomic status but differing ethnic background, as well as assess the influence of acculturation status on illness beliefs, and influence of illness beliefs on the course and prognosis of illness.

Poster No. 1-49

IMPACT OF BODY IMAGE ON PREMENSTRUAL SYNDROME IN ADOLESCENTS

Lead Author: Hyung-Joo Chang, M.D.
Co-Author(s): Chang-Su Han, Young-Hoon Ko, Hyun-Gang Jung, Sook-Haeng Joe
E-mail : shaeng@korea.ac.kr

SUMMARY:
Objectives: To investigate the frequency and clinical characteristics of premenstrual syndrome (PMS)/premenstrual dysphoric disorder (PMDD) and the impact of body image on PMS/PMDD in adolescents.
Methods: Total 1688 students were selected from 5 high schools in Seoul, South Korea. Subjects completed the questionnaire composed of the Premenstrual Symptom Screening Tool (PSST), the Body Esteem Scale (BES), the Center for Epidemiologic Studies Depression Scale (CES-D), the State-Trait Anxiety Inventory-Trait Anxiety (STAI-TA) and demographic, menstrual factors. Subjects were categorized into 3 groups by using the PSST to determine the frequency and clinical characteristics of PMS/PMDD. Multivariate logistic regression was used to determine impact of body image and other variables on PMS/PMDD. Considering strong confounding effect of depression and anxiety, subgroup analysis based on depression and anxiety level was carried out to determine the impact of body image on PMS/PMDD.
Results: The frequency of Moderate to Severe PMS and PMDD was 20.1% and 6.4% respectively. Irritability (78.8%), fatigue (76.4%), emotional sensitivity (69.8%), physical symptoms (64.2%), and hypersomnia (62.8%) were common premenstrual symptoms, and functional impairment in study efficiency (67.1%) was dominant in adolescents. Dysmenorrhea (OR=3.68, 95% CI 2.45-5.55, p=0.000), use of oral contraceptives (OR=1.85, 95% CI 1.16-2.94, p=0.010) and family history of premenstrual symptoms (OR=1.91, 95% CI 1.35-2.71, p=0.000) increased risk of PMS/PMDD. Negative body image increased risk of PMS/PMDD when adjusted for demographic and menstrual variables (OR=1.02, 95% CI 1.01-1.04, p=0.000), but the impact was not significant when adjusted for depression and anxiety (OR=0.99, 95% CI 0.98-1.01, p=0.410). In subgroup analysis, negative body image increased risk of PMS/PMDD when major depression with anxiety group (n=450) was excluded (OR=1.02, 95% CI 1.004-1.037, p=0.017).
Conclusions: PMS was common, with the frequency of PMS more than moderate severity including PMDD exceeded 25%, and disrupted daily functioning of adolescents. The results strongly suggest that negative body image could increase the risk of PMS in adolescents without significant depression and anxiety.

Poster No. 1-50

INSOMNIA-INDUCED PSYCHOSIS: A CASE REPORT AND LITERATURE REVIEW

Lead Author: Jether Christian Farino, M.D.
Co-Author(s): Victor A. Torres-Collazo MD

SUMMARY:
Introduction: Over the last 10 years psychiatric research has reconceptualized psychosis as an amorphous continuum that overlaps mood, thought and anxiety disorders. A common variable that is found in this overlap is that aberrant circadian processes appear to play a role in the manifestation of psychotic symptoms. This begs the inclusion of insomnia induced psychosis to be considered as part of this continuum. It is well known in the literature that psychotic symptomatology can be influenced by poor circadian processes which have the potential to dysregulate neurotransmitter activity. This dysregulation can be perpetuated by genetic factors and environmental stressors. We will explore the following case of a psychiatric naive individual with a protracted course of insomnia precipitating an acute psychotic episode that resolved quickly once normal sleep had resumed. Methodology: A retrospective medical chart review was conducted along with a literature review of insomnia, delirium, memory processing and immune system processes within the brain and their correlations with psychotic manifestations.
Case Presentation: We present a case of a four week occurrence of insomnia preceding an acute episode of paranoia and psychotic symptoms in a neuroleptic naïve 22-year-old male without prior psychiatric history. These symptoms all ameliorated to the level of premorbid functioning after one night of restorative sleep and a single dose of Aripiprazole 10mg by mouth. No evidence was found indicating an organic etiology of the patient's symptoms. There was no recurrence of psychiatric symptoms, including insomnia, after 3 months of outpatient follow up. Discussion: Treating first break psychosis with neuroleptics is imperative to ensure good long term prognosis of psychotic spectrum illnesses. However, this case highlights a potential subset of patients with Breif psychotic Disorder that quickly and fully reconstitute to their baseline level of functioning without the use of antipsychotics. We looked at potential behavioral characteristics in this subset as well as specific neurotransimitter activity and their overlap with other brain structures.
Conclusion: The interconnectivity of the brain and its varied presentations in behavior show extensive overlap in the literature between insomnia and psychosis. This multivariate of function and connectivity look to underscore the legitimacy of multifaceted approaches to treatment currently used, and those treatments yet to be discovered, in addressing psychiatric illness. In the present case, the practicality of solely treating insomnia in, at least some cases of, Brief psychosis is raised. This approach to the treatment of insomnia as a precipitate of acute psychosis could potentially mitigate some of the long and short term side effects and symptoms associated with neuroleptic treatment and its stigmas.

Poster No. 1-51

IS THERE AN ETHICAL IMPACT ON PROVIDERS PERFORMING SCREENINGS FOR ELECTIVE AMPUTATION PROCEDURES?

Lead Author: Shannon Schuerger, M.D.
Co-Author(s): Harold Wain, PhD, FAPM

SUMMARY:
Introduction: Many Psychiatry Consultation-Liaison Services (PCLS) are often asked to participate in screening evaluations for medically needed procedures (transplant, bariatric). Since the current wars began, PCLS at Walter Reed National Military Medical Center has been involved with service members who have been injured in a war zone. Many warriors come back with traumatic amputations and have demonstrated rapid mobility on prosthetics. Others have had severe injuries where salvage was initially attempted; this process can be lengthy and painful with suboptimal results, often leading to requests for amputation. Collaboration with orthopedic surgery has developed to screen all patients who request an elective amputation. Patients have many conscious and unconscious motivations that can be detrimental to their progress and need to be assessed. Two cases will be utilized to highlight some of the concerns that develop.
Case report: Two patients, both with intact families, presented for bilateral lower extremity amputation with different outcomes: a 35 year old married male with no psychiatric concerns and an outstanding post-operative outcome and a 38 year old married female who was denied and referred to

outpatient psychotherapy to deal with primary gain issues. During treatment she stopped requesting surgery.
Discussion: A psychiatric evaluation from a biopsychosocial perspective provides data to the surgeons about how patients are coping, potential insight into the rehabilitation process, and gives support that amputations are performed for the stated reasons. Patients' requests for amputations typically include motivation to decrease pain, improve mobility and return to a previous level of functioning. Other reasons could be monetary, ability to wear the 'red badge of courage,' dependency, and apotemnophilia, a disorder described in the literature where a person does not feel whole with all their limbs. If apotemnophilia is present, at times these patients have mutilated themselves to force surgeons to amputate previously healthy limbs. Many questions arise on the part of the clinician during the screening process: Why amputate? Are they motivated consciously or unconsciously to have a disability? Any financial motivators? Desire to escape? Impact on the patient's future? Are there erotic unconscious conflicts? Clinical ethical questions also arise for the providers: Are we facilitating the likelihood of patient accidents and falls in the future? Why are some patients elated post-operatively? Is there predictive validity or are we being fooled by a convincing patient?
Conclusion: There is a dearth of literature on screening for amputation. However, given the press that amputees have received due to the wars this is an important topic that needs to generate greater discussion as these patients will likely be presenting more to surgical services. Are there other issues for psychiatry to consider in planning for future collaborations?

Poster No. 1-52
IT'S NOT ALWAYS A GOOD IDEA TO "PUMP IT" UP
Lead Author: Jamie Vizcarra, D.O.
Co-Author(s): Adekola Alao, MD
SUMMARY:
Introduction: With the banning of designer drugs such as K2, Spice, and bath salts, there has been an emergence of a new synthetic product called PUMP IT. Although there is no certainty regarding all of the components in a substance like this, there is evidence that Geranamine aka Methylhexamine (DMAA) is the main constituent of PUMP IT. Methlyhexamine; a stimulant and releasing agent of norepinephrine, was once used as a nasal decongestant and since has been used in dietary supplements advertising weight loss and increase in energy. In 2010, the World Anti-Doping Agency (WADA) added geranamine to the list of banned performance enhancing substances. It has been reported to produce paranoia, hallucinations, mood lability and seizures. Recently, it has been marketed as a new means to a "legal high", as its sale is not strictly regulated.
Case Presentation: A 40 year old male was brought to the ER after sustaining a serious self-inflicted stab wound to the abdomen using a knife. He underwent an emergency exploratory laparotomy and was stabilized after repair of a lacerated liver. Once able to communicate; Psychiatry was consulted to evaluate for the supposed suicide attempt. The patient was unable to recall any details in the time frame surrounding the incident. Prior to the event the patient's wife noticed that his pupils were widely dilated and he appeared agitated, paranoid and diaphoretic. Shortly thereafter he apparently stabbed himself. Further questioning revealed that the patient was opioid dependent and was employing self-detox techniques; last use of hydrocodone being 6 weeks prior. He began using (snorting) a new compound called PUMP IT after a friend suggested its use to tide over some of his symptoms and gain energy. During that 6 week period, he experienced a 40 lb. weight loss, severe insomnia and impulsive behavior translating into dangerous acts such as overdosing on medications and walking into oncoming traffic. The patient had denied experiencing such symptoms and erratic behavior prior to his use of PUMP IT.
Conclusion: While this case highlights the importance of including substance induced mood disorder in the list of differential diagnosis when appropriate; it should also serve to provide awareness of a larger public health issue. With the restriction of some designer drugs being increasingly enforced, new products will continue to surface and infiltrate the general population leading to a myriad of dangers.

Poster No. 1-53
KNOWLEDGE OF, AND ATTITUDES TOWARD, MENTAL ILLNESS AMONG PRIMARY CARE PROVIDERS IN SAINT VINCENT AND THE GRENADINES, 2011
Lead Author: Rachel Ann Winer, M.D.
Co-Author(s): Amrie Morris-Patterson, Ynolde Smart, Inci Bijan, Craig L. Katz
SUMMARY:
Objective: Saint Vincent and the Grenadines (SVG) is an Eastern Caribbean country with limited inpatient and outpatient resources to meet the country's mental health needs. In preparation for integrating mental health care into the primary care setting, we assessed knowledge of and attitudes toward mental illness among primary care providers in SVG.
Methods: From October 24–November 11, 2011, we visited a convenience sample of district health clinics in SVG. We gave a multiple-choice-answer, self-administered questionnaire to primary care providers and then administered a structured interview. Survey responses were analyzed for frequencies and interview transcripts qualitatively analyzed for major themes.
Results: We completed fifty three surveys and interviews representing all nine SVG Health Districts. Results demonstrated a provider population with basic, but inadequate, knowledge of mental illness diagnosis and treatment. Results also revealed a curious and interested group of providers who felt mental illness should be a health priority and were willing and eager to receive further mental health training. Providers suggested strengthening resources in existing district clinics, providing additional staff training sessions, establishing positions with a dual health and mental health role, instituting annual mental health screening examinations, and creating weekly mental health clinics.
Conclusion: Integrating mental health care into primary care necessitates involvement of primary care staff during the planning stages, and this study was an intensive effort to do so in SVG. Results have led to the development of a "mental health check-up" tool, which we hope will improve access to mental health care in this community.

Poster No. 1-54
LAMOTRIGENE CAUSING DRESS SYNDROME: A CASE REPORT AND REVIEW OF TREATMENT FOR ADOLESCENT BIPOLAR DISORDER
Lead Author: Michelle Chaney, M.D., M.Sc.
Co-Author(s): Almari Ginory, DO, Mathew Nguyen, MD
SUMMARY:
Drug reaction with eosinophilia and systemic symptoms (DRESS) is a hypersensitivity syndrome most commonly associated with antiepileptics, allopurinol, and sulfonamides. It is a severe adverse reaction associated with fever, rash, eosinophilia, lymphadenopathy, and internal organ involvement. Herein, we present a case of a 17 year-old Caucasian female with Bipolar Disorder type II and Posttraumatic Stress Disorder treated with Lamotrigine who was admitted to our hospital for treatment of DRESS syndrome. Her symptoms were atypical in that she developed a rash with flu-like symptoms that resolved after discontinuation of Lamotrigine and returned 8 days later. In patients presenting with rash and systemic symptoms, DRESS syndrome should be considered and treated appropriately to reduce mortality, which can be as high as 10%. Treatment includes withdrawal of the offending agent and corticosteroids. Our presentation aims to make physicians more aware of this rare adverse drug reaction. We will also analyze the FDA

approved treatments for Bipolar Disorder in adolescents. If these guidelines were followed, Lamotrigine would not have been prescribed and medical complications for the patient could have been prevented. The patient was a 17-year-old 135lb Caucasian female initially admitted to an inpatient psychiatric hospital due to anger outbursts and violent threats towards her family members. During this hospitalization, she was diagnosed with Bipolar II Disorder and Posttraumatic Stress Disorder (PTSD). She was previously tried on fluoxetine, sertraline, citalopram, venlafaxine, and lithium without any noticeable benefit. Patient was started on Lamotrigine 25 mg PO BID monotherapy and discharged on the same dose. Three weeks after starting Lamotrigine, the patient began to develop a rash as well as general flu-like symptoms. Her mother was concerned this was an adverse drug reaction, and Lamotrigine was discontinued. The rash resolved within 3 days. Approximately 8 days later, the patient developed a new onset diffuse rash, fever with a maximum temperature of 103ºF, abdominal upset, and generalized fatigue. Upon admission, she had elevated liver function tests (AST 2057, ALT 2076, Alk Phos 455, Total bilirubin 6.5, Direct bilirubin 6.1, and Albumin 3.2). Ammonia was 157. Toxicology and infectious screens came back negative. Her absolute eosinophil count elevated at 0.85x109L-1. She was diagnosed with having DRESS syndrome based on the above symptoms and a history of treatment with Lamotrigine. Treatment for her symptoms included Methylprednisolone 125 mg IV daily. She responded to this treatment and her liver enzymes trended down, but she subsequently developed steroid induced hyperglycemia that required treatment with insulin. She was advised to follow-up with her outpatient psychiatrist once her liver enzymes normalized with the recommendation to start an FDA approved treatment for Bipolar Disorder in adolescents, an atypical antipsychotic.

Poster No. 1-55

LONG-TERM USE OF SECOND GENERATION ANTIPSYCHOTICS [SGAS] IN TREATMENT OF UNIPOLAR DEPRESSION: A SAFETY CONCERN

Lead Author: Tushar J. Makadia, M.B.B.S.

SUMMARY:

Objective: SGAs use has expanded from treatment of schizophrenia to bipolar mania and unipolar and bipolar depression. It is important to consider estimating long term risk and benefits of continuing of such treatment while treating unipolar depression.

Case Presentation: 64 Year old widowed domiciled Ethiopian male, employed as an accountant with previous psychiatric history of Major Depression [No history of previous psychiatric hospitalization], anxiety disorder presents with complains of burning stomach pain (despite negative medical work up and current treatment with Nexium), and excessive worries related to work up on initial presentation. He also complains of anhedonia, poor appetite, inability to concentrate at work, insomnia. He currently takes Olanzapine [for approximately 9 years] and Dextroamphetamine as prescribed by previous psychiatrist after unsuccessful trials of Fluoxetine (worsening of stomach pain), Quetiapine and Modafinil. Patient presents with Tardive dyskinesia (TDs) of moderate severity of lip, tongue and perioral area for around 3 years and is progressively worsening. Patient was gradually tapered off Olanzapine and Dextroamphetamine while concurrently started on Mirtazepine. Symptoms significantly improved on CUDOS [Clinically useful depression outcome scale] from score of 35 to 19 over 4 week's period.

Discussion: SGAs have been proven efficacious in treatment of unipolar depression in combination with SSRIs. SGAs are prescribed for treatment of affective disorders including depresssion with or without psychotic features. Such treatment is associated with tolerability issues such as metabolic adverse effects (weight gain, increase in blood glucose, total cholesterol and triglyceride levels) and extra pyramidal symptoms [EPS] [i.e. Parkinsonism, akathisia, tardive dyskinesia) and have effect on mortality and morbidity. Currently there are no clear guidelines for use of SGAs for treatment of depression. Also it is unclear how long should one continue antipsychotic after remissions is achieved? What is long term risk of TDs and other morbidities associated with continued treatment of SGAs? More studies need to be conducted in order to stratify the safety of long term of use of SGAs in treatment of depression.

Poster No. 1-56

MAJOR DEPRESSION RECURRENCE TRIGGERED BY CONTROL OF LONG-STANDING SEIZURE DISORDER AND TREATMENT OF DEPRESSION WITH ECT: A CASE REPORT

Lead Author: Eugene Grudnikoff, M.D.

Co-Author(s): Priya Mahajan MD, Georgios Petrides, MD, Sarjak Mehta, MD

SUMMARY:

Introduction: Depression and epilepsy have been shown to be interrelated and highly comorbid; various aspects of this correlation are poorly understood.

Methods: We report a case of a patient with long history of poorly controlled seizure disorder and remote history of depresssion. The patient experienced sudden recurrence of depressive disorder following successful treatment of the seizures. We describe successful treatment of depression using electroconvulsive therapy (ECT) and review current literature on the topic.

Case Description: The patient is a 57-year-old Caucasian female who presented with anhedonia, guilt, lack of energy, weight loss, and suicidal thoughts over a period of 8 months. Patient had been depressed as a teenager and young adult, but this was her first depressive episode since her 30's. At age 31 patient developed seizure disorder following multiple foot surgeries. The seizures persisted despite multiple mono- and combination treatments including valproic acid, carbamazepine, levetiracetam, lamotrigine, and vagal nerve stimulator trials. About a year prior to current presentation, patient was diagnosed with atrial fibrillation. Seizures resolved shortly after a cardiac pacemaker was implanted. Following a failed trial of sertraline for depression, patient was evaluated for ECT with coordination of cardiology and neurology services. Bifrontal electrode placement was used. During the first ECT treatment, the patient did not have a motor seizure from a stimulus set at 30 or 45 Joules; she had a 27 second EEG and motor seizure at 75 Joules. Three subsequent ECT treatments (3 times per week) were uneventful. Patient experienced an improvement in depressive symptoms and had a decrease in Hamilton Depression Rating Scale - 24 item (HAM-D) score from 32 prior to first treatment to 19 after the third treatment. She continues to receive maintenance ECT.

Conclusions: While epilepsy is recognized as a significant risk factor for depression, it is likely that physiological seizures had an anti-depressant effect in our patient. There were not case reports or controlled studies that observed this phenomenon.

Poster No. 1-57

MAJOR DEPRESSIVE DISORDER FOLLOWING RECOVERY FROM THROMBOTIC THROMBOCYTOPENIC PURPURA (TTP)

Lead Author: Lauren Heather Schwartz, M.D.

Co-Author(s): Cassandra C. Deford, Jedidiah J. Perdue, Jessica A. Reese, Johanna A. Kremer Hovinga, Bernhard Lämmle, Lauren M. Stewart, Deirdra R. Terrell, James N. George, Sara K. Vesely

SUMMARY:

Objective: To Document the frequency of Major Depressive Disorder (MDD) during long-term follow-up after acute episodes of TTP associated with ADAMTS13 deficiency and compare the frequency to U.S. population data.

Methods: We included all Oklahoma TTP-HUS Registry patients whose initial episode was associated with severe ADAMTS13

deficiency (<10%), 1995-2010, and who were alive in 2004 when our mental health screening began. Patients completed the Beck Depression Inventory-II (BDI-II) one to five times from 2004-2011. Patients who had scores indicating moderate or severe depression on at least one evaluation participated in a structured psychiatric interview to establish DSM-IV-TR axial (I-V) diagnoses. At the time of the interview, the patients also participated in completion of the Revised Hamilton Rating Scale for Depression (RHRSD) to provide additional support of diagnoses as well as provide an additional means to monitor depressive symptoms.
Results: Of the 68 patients with severe ADAMTS13 deficiency at the time of their initial episode of TTP, 52 were alive in 2004; 47 (90%) completed the BDI-II one to five times. 22 (46.8%) had scores suggesting moderate or severe depression on at least one evaluation. 19 were alive in 2011. 14 of these patients underwent a structured psychiatric interview. 10 of the 47 patients (21.2%) met criteria for MDD 5.6 years (median, range 2.3-13.3 years) after their initial TTP episode, which is significantly higher than the relative frequency of MDD in the United States (6.7%) according to the National Institute of Mental Health (p=0.0019).
Conclusion: The frequency of MDD is significantly increased in patients during long-term follow-up after recovery from TTP. Recognition and appropriate management of this clinically important health problem are critical components of the care of patients who have survived acute episodes of TTP. The importance of educating the medical community that provides continued treatment for these patients should not be underestimated and the first step in providing this education is increasing awareness of these findings.

Poster No. 1-58

MALIGNANT CATATONIA: DIAGNOSIS AND MANAGEMENT IN AN ELDERLY PATIENT WITH COMPLEX MEDICAL COMORBIDITIES

Lead Author: Abigail Galle Buoy, M.D.
Co-Author(s): Gaurav Jain, M.D., Robert Perry, M.D., Vinod Alluri, M.D.

SUMMARY:

The prevalence of catatonia among psychiatric patients ranges from 6% to 38%. Malignant catatonia in particular is life-threatening and generally warrants admission to an intensive care unit. Emergency electroconvulsive therapy (ECT) is the treatment of choice for malignant catatonia. We present a case of malignant catatonia in an elderly man with multiple medical comorbidities to highlight diagnostic dilemmas and difficulties in management. A 64 year old man with longstanding history of bipolar affective disorder type I maintained on gabapentin 1800 mg/d presented with a major depressive episode with psychotic features. The patient had a complex past medical history including lithium induced end-stage renal disease status post transplant, left ventricle thrombus, interstitial pulmonary fibrosis requiring supplemental oxygen therapy, and ischemic cardiomyopathy with an ejection fraction of 27%, requiring placement of an AICD for ventricular arrhythmias. He was allergic to valproate and carbamazepine. After initial 2 day treatment with citalopram and quetiapine, patient's condition further deteriorated to catatonia with significant negativism, mutism, waxy flexibility, perseveration and autonomic instability including hypotension. The patient also had intermittent fever to 38.8 Celsius with negative medical work-up. The differential diagnoses included Neuroleptic Malignant Syndrome, serotonin syndrome, hypoactive delirium, Parkinsonism and malignant catatonia. Psychotropics were discontinued. There was only marginal CPK elevation without leukocytosis. A challenge dose of intravenous Lorazepam 0.5mg was given with significant response, hence malignant catatonia was the leading differential. However, response to lorazepam diminished soon and his medical comorbidities limit the total dose of lorazepam to 4 mg/d. A worsening of catatonia, poor oral intake and immobility for 5 days along with inability to take his vital medications was concerning and an emergent electroconvulsive therapy (ECT) was pursued. He responded well to 7 courses of ECT and in lieu of appropriate mood stabilizer plans to continue maintenance outpatient ECT and restart gabapentin. Literature suggests that mortality for progressive malignant catatonia increases if ECT does not begin within five days of symptom onset. Patients with malignant catatonia are more likely to respond to ECT (89 percent), versus benzodiazepine (40 percent). While the risk benefit ratio must be carefully evaluated with any treatment, ECT has been performed safely even in patients with significant medical comorbidities, including severe cardiopulmonary disease.

Poster No. 1-59

MANAGING NEUTROPENIA IN PATIENTS TREATED WITH CLOZAPINE

Lead Author: Nivedita Mathur, D.P.M., M.D.
Co-Author(s): Pedro Bauza, MD, Beeta Verma, MD, Sunil Verma, MRCPsych, MD, Donald Kushon. MD

SUMMARY:

Introduction: Clozapine, a serotonin 2A/dopamine D2 antagonist, was the first antipsychotic to be recognized as atypical and having few extrapyramidal symptoms. Clozapine is associated with a 0.5%–2% risk of developing life-threatening agranulocytosis and a 2%–3% risk of developing neutropenia. Even though it was developed in 1961, it was not approved for use in the United States until 1990 due to reports of agranulocytosis in patients treated with clozapine in 1975.
Method: We discuss 2 patients taking clozapine who developed neutropenia that was managed so that the patients could be maintained on clozapine.
Discussion: Case 1 had been taking lithium before he was given clozapine, and his counts initially were within normal limits. While on clozapine when lithium was stopped, he developed neutropenia. However, because he did not improve, he was rechallenged with clozapine along with lithium, and the counts improved considerably even with 300 mg bid dose of clozapine. It is well documented that lithium induces neutrophilia shortly after initiation of treatment, usually when the concentration of lithium in the blood is 0.4 to 1.1 mEq/l. Apart from redistributing granulocytes that are marginated or in the bone marrow reserve, lithium also stimulates granulocyte production/granulopoiesis, possibly by acting as a granulocyte-stimulating agent . Lithium has been used to prevent neutropenia in patients taking clozapine and to facilitate initiation of clozapine in the presence of preexisting neutropenia and in patients with benign ethnic neutropenia.
Case 2 had a history of schizophrenia that responded well to clozapine. Her neutropenia was precipitated by interferon, which was prescribed by her hepatologist. The use of filgrastim brought up her counts and allowed us to use clozapine. Both granulocyte colony-stimulating factor and granulocyte-macrophage colony-stimulating factor have been used in the treatment of clozapine-induced agranulocytosis. Whereas most cases of clozapine-induced agranulocytosis occur in the first 3 months of starting clozapine, it can occur later if the patient is given drugs that have a potential for suppressing the bone marrow. Other risk factors include increasing age, female gender, and HLA-B38 phenotype.
Conclusion: Despite the side effects, it is one of the most efficacious antipsychotics and is particularly effective in treatment-refractory patients. In patients whose illness responds to clozapine effective management of the side effects can permit these patients to continue taking clozapine and lead to a tremendous improvement in their quality of life

Poster No. 1-60

MEDICALLY CLEARED? UNRECOGNIZED PULMONARY EMBOLISM IN A PATIENT WITH MAJOR DEPRESSIVE DISORDER (MDD)

Lead Author: Christopher Montes, M.D.
Co-Author(s): Rashi Aggarwal MD

SUMMARY:
BACKGROUND: Medical conditions can often present in ways that closely mimic psychiatric illness. Intoxications, delirium, nervous system disorders, endocrine disorders, cardiovascular and respiratory conditions can be missed which can lead to inappropriate and dangerous psychiatric admissions. However, patients with pre-existing psychiatric disorders can get their complaints dismissed without appropriate workup. We report a patient with a history of depression who presented with panic-like symptoms, was medically cleared and then transferred to the psychiatric ER where further investigation by the psychiatric team led to the diagnosis of bilateral pulmonary emboli.
CASE REPORT: Mr. M was a 60yo man with a history significant for major depression, diabetes, hypertension who had presented with the complaint of recurrent panic attacks 1 day following discharge from the inpatient psychiatric unit. He had initially been admitted for treatment of a depressive episode, was treated in the inpatient unit for a month and showed good response to sertraline. While in the unit, he did not report panic-like symptoms. He was discharged back to home with significant improvement. He then presented to the ER with a 1 day history of recurrent episodes of dyspnea and chest pain lasting few minutes between each episode. The physical exam was unremarkable except for tachycardia. Labs including a complete blood count and a basic metabolic profile were normal. The electrocardiogram showed sinus tachycardia at a rate of 128 with left axis deviation but was otherwise non-remarkable. The patient was medically cleared and then transferred to the psychiatric ER where he continued to exhibit the same complaint. Given his persistent and worsening symptoms, a 2nd year psychiatric resident ordered a d-dimer to rule out pulmonary emboli. The d-dimer was grossly elevated at 5883 mg/L. The medical ER was notified and subsequently, a CT scan of the chest with PE protocol was ordered which demonstrated bilateral pulmonary segmental emboli.
CONCLUSION: Patients who are admitted to psychiatric units routinely undergo medical screening in the ER to rule out serious medical illnesses. However, "medical clearance" can be ambiguous. Failure to detect and diagnose underlying disease can result in significant but preventable morbidity and mortality, especially in a population with high risk of comorbid medical illness. History, physical exam including detailed mental status and review of systems have relatively high yields in detecting active medical problems. Psychiatrists are invaluable in preventing such hazards due to their training and ability to provide differentials which can help exclude acute medical problems.

Poster No. 1-61

MORNINGNESS-EVENINGNESS AFFECTS THE DEPRESSIVE MOOD AND DAY-TIME SLEEPINESS OF PATIENTS WITH OBSTRUCTIVE SLEEP APNEA SYNDROME

Lead Author: Seongho Kim, M.D.
Co-Author(s): Eui-Joong Kim M.D., Eun-Jeong Joo M.D., Kyu Young Lee M.D., Young Jin Koo M.D.

SUMMARY:
Recent studies have reported a psychological correlation between obstructive sleep apnea syndrome (OSA) and depression, yet these are still controversial results. In attempt to verify the suggestion that eveningness is related to depression, we examined the effect of morningness-eveningness of OSA patients on their depressive mood. The examination was based on the charts and polysomnography reports of 211 polysomnography-proven OSA patients. Information was gathered from the patients who filled out the Horne and Ostberg Questionnaire (HOQ), Profile of Mood States-Korean version (POMS-K), and Epworth Sleepiness Scale (ESS). We compared mean values of POMS-K, ESS, and OSA severity variables such as apnea-hypopnea index (AHI), average arterial O2 saturation, and total arousal index (TAI) among the 3 morningness-eveningness groups (49 morning type, 31 evening type, 131 neither type). Correlation analysis was performed between each demographic variables. Questionnaires and OSA severity variables were adjusted by age and weight. ANCOVA was performed among the 3 morningness-eveningness groups in regards to each demographic variables and questionnaires in which OSA severity variables adjusted by age and weight. There were significant negative correlations between HOQ and all of the following variables: K-POMS, POMS-T, POMS-D, POMS-A, POMS-F, POMS-C, Spontaneous arousal index, Average O2 saturation. In addition, there were significant positive correlations between HOQ and the following variables: POMS-V, AHI, Respiratory arousal index, Snore time. There were significant negative correlations between POMS-D and the following: HOQ, POMS-V, Stage 1 sleep, AHI, Total arousal index, Oxygen desaturation index, Respiratory arousal index, Neck circumference, Average O2 desaturation, Snore time. And there were significant positive correlations between POMS-D and K-POMS, POMS-T, POMS-A, POMS-F, POMS-C, Sleep latency, Stage 2 sleep, Heart rate, Spontaneous arousal index. There were significant variations among K-POMS, POMS-T, POMS-D, POMS-F, POMS-C, Spontaneous arousal index among the HOQ-K groups. The depressive correlates of OSA patients might be affected, not by excessive daytime sleepiness or OSA severity indexes, but by eveningness circadian characteristics. It would be important to know take into account the morningness-eveningness tendency when we manage the depressive mood of OSA patients.

Poster No. 1-62

MOTIVATIONS FOR, AND DETECTION OF, THE MALINGERED PTSD IN THE MILITARY POPULATION: A CASE STUDY AND LITERATURE REVIEW

Lead Author: Ryan Chiarella, D.O.

SUMMARY:
Background: After greater than a decade at war, an increased number of medical retirements from the United States Armed Forces should be anticipated. Billions of dollars will be spent providing lifelong healthcare to our wounded warriors medically retired for physical disabilities and those suffering from the invisible wounds of war. Posttraumatic Stress Disorder (PTSD) has been accepted by the Veterans Administration as a service-linked disability since 1980. With a diagnosis established almost purely on subjective symptoms, how can military mental health providers and those responsible for determining service compensation be certain that they are doing so appropriately?
Objectives: Utilization of case studies inclusive of active duty and retired service members combined with a review of available literature to further explore the various motivations for the over-report or feigning of PTSD symptoms and methods for detecting these behaviors.
Method: Articles were obtained through a systematic search of MEDLINE and from bibliographies of relevant articles. Texts on the topic of malingering mental illness were reviewed. Individual cases cited were the result of both diagnostic interviews and mandatory post-retirement follow up encounters of individuals medically retired with a diagnosis of PTSD.
Results/Conclusion: A diagnosis of malingered PTSD requires the establishment of an individual's motivation, the observation of characteristics believed to differentiate genuine sufferers of PTSD from those who are feigning or embellishing their symptoms and an extensive amount of collateral information. Typical motivators for active duty service members to feign or embellish PTSD symptoms include financial, criminal and emotional. The current methods of establishing the diagnosis of

malingering with regard to PTSD, to include structured interviews, projective testing and clinical diagnostic decision models, are documented to be effective but remain controversial.

Poster No. 1-63

MULTI-LEVEL PROCESSES FOR IMPLEMENTATION OF PSYCHIATRIC ADVANCE DIRECTIVES POLICY

Lead Author: Rachel Zinns, M.D., M.Ed.
Co-Author(s): David Miller, PhD., Kishor Malavade, MD

SUMMARY:

Background: Consumer autonomy, improved treatment adherence, enhanced treatment alliance, and reduced violence are among the many supposed benefits of psychiatric advance directives (PAD) at the intrapersonal, interpersonal, and service system levels. Despite reports of these and other benefits of PAD, strong consumer interest in PAD, and national policy oversight moving towards a standardization of PAD, their use has not been widespread. Indeed, there have been numerous reports in recent years of consumer and clinician attitudes regarding PAD, content of PAD documents, and factors relating to their completion process. Yet little has been written about the implementation of PAD at the organizational level, especially with regard to dissemination and access to documents and the honoring of PAD.

Objective: To describe the process of implementing an institutional policy on PAD. This project represents an ongoing system-wide, coordinated effort including consumer education, staff training, and incorporation into residency training curriculum.

Methods: A literature review was conducted to research examples of PAD documents, opinions of consumers and providers regarding benefits and barriers to PAD interventions, as well as strategies for consumer and provider training. Educating providers about PAD and obtaining feedback from them regarding implementation strategies are ongoing, and these were reported at IPS in May 2012. Guidelines for monitoring the dissemination of and access to PAD throughout our facilities have been developed and are being incorporated into EMR. In collaboration with Primary Care teams, services have been organized to offer Psychiatry clinic patients both education and facilitation with medical advance directives in addition to PAD. Training on medical and psychiatric advance directives, competency assessment, and integrated care has been incorporated into the residency training curriculum. Efforts are presently consumer-focused, examining different models of PAD facilitation, consumer education, and peer-training.

Results: We continue to report on the process of creating and implementing a PAD policy, highlighting strategies which were most helpful as well as obstacles/resistance frequently encountered. Early results of monitoring how PAD are accessed and honored, as well as feedback from consumers and providers regarding implementation strategies will be shared.

Conclusion: Despite many proposed clinical and organizational benefits of PAD, their use has not been widely implemented nationally or locally. We hope to present a model of integrated PAD policy implementation which addresses real-time barriers and provides recommendations for successfully implementing PAD policy across a spectrum of community health organizations.

Poster No. 64

NEUROSYPHILIS PRESENTING WITH ACUTE PSYCHOSIS

Lead Author: Leyla Baran Akce, M.D.
Co-Author(s): Mehmet Akce, MD, Feras Abdul Khalek, MD, Hacer Guvenc Bicer, MD, Daniel Mayman, MD

SUMMARY:

A 43-year-old man without any known psychiatric history was admitted to the psychiatric unit with a 2-3 week history of confusion, disorientation, and hallucinations. Unkempt with soiled skin and poor personal and dental hygiene, his ability to pay attention was poor. He admitted to hearing voices that "tell me to do things," and his thought process was tangential. The absence of any known psychiatric history as well as development of symptoms in such a short time raised concern for organic causes for acute psychosis and confusion. Initial laboratory examination was unremarkable and included complete blood count, basic metabolic panel, and liver enzymes. Serum RPR (rapid plasma reagin) was 1.256 and confirmatory TP-PA (Treponema pallidum particle-agglutination test) was positive. HIV test was negative. Lumbar puncture revealed WBC 33 /mm3, which was 89% lymphocytic, and VDRL (Venereal Disease Research Laboratory) titer was 1:128. The patient was treated with penicillin for 14 days, and discharged with some improvement. Repeat lumbar puncture revealed WBC of 0 and negative VDRL in CSF analysis 6 months later. Although neurosyphilis was responsible for one fifth of psychiatric admissions before the antibiotic era, with the invention of penicillin it has been a rare cause. Current CDC data on syphilis rates shows that new cases doubled between 1980 and 1990 and has trended up since 2000. Caused by Treponema pallidum, the disease has been divided into a series of overlapping stages. Central nervous system involvement, neurosyphilis, can occur at any stage of illness. Dementia, depression and grandiosity are the most common psychiatric symptoms of neurosyphilis but it can present with symptoms of any psychiatric disorder and therefore must be considered in the differential diagnosis of psychiatric illness. According to CDC 2010 guidelines, penicillin remains the gold standard of treatment for all stages of syphilis. It remains important to consider neurosyphilis in differential diagnosis in patients presenting with acute psychosis and also other psychiatric conditions as neurosyphilis may masquerade many different psychiatric disorders.

Poster No. 1-65

OBSESSIVE-COMPULSIVE DISORDER MANIFESTING AS RECTAL PAIN

Lead Author: Kristi Linnet Cangiamilla, D.O.
Co-Author(s): Rohul Amin, MD
Karen Parisien, MD

SUMMARY:

Introduction: Somatic presentation of psychiatric disorders is a well-known clinical entity and represents
a large number of patients in primary care settings. Accurate diagnosis requires high index of suspicion in order to identify the need for psychiatric care. We present a case of Obsessive-Compulsive Disorder manifesting as sharp rectal pain.

Case: Patient is a 35 year-old Hispanic female with a history of generalized anxiety disorder and external hemorrhoids who presented to her primary care provider with a two week history of severe pain in the rectal area that was worse towards the end

of the day and absent upon waking up. Additionally, she had seen a single episode of bloody spotting on tissue. Her evaluation was negative with normal rectal exam without fissures or palpable masses. She was empirically treated with rectal corticosteroids for hemorrhoidal disease without any relief. At follow-up she revealed severe fear of having rectal cancer and reported a relative had recently received this diagnosis. Further history revealed she began to have thoughts regarding the presence of rectal cancer with compulsion of continuously contracting her anal sphincter with belief that it was protective against the spread of cancer. Her mental status exam was significant for an anxious appearing female and physical exam, including digital rectal exam, were normal. Further history revealed ordering and arranging compulsions. She was treated initially with sertraline titrated to 200mg daily and Cognitive Behavioral Therapy but only had minimal response at four weeks. Patient was in severe psychologic distress, with insomnia and inability to perform socially with worsened somatic obsessive fears and continued compulsive anal behavior. Aripiprazole 5mg daily was added as adjunct to sertraline and the patient had complete cessation of her intrusive thoughts on the third day of treatment. She subsequently underwent a normal flexible sigmoidoscopy to complete her medical evaluation and remained symptom free at 3 month follow-up.
Discussion: To our knowledge, this is the first case of its kind in the literature that illustrates the etiological basis of the patient's initial complaint of rectal pain via compulsive external anal sphincteric contractions. The rapid response following implementtation of aripiprazole that preceded endoscopic evaluation suggests its efficacy in OCD and is supported in the literature.
Conclusion: Somatic type of OCD should be on the differential diagnosis in similar cases and requires a high index of clinical suspicion. Aripiprazole may have a role in treatment of OCD.

Poster No. 1-66
PAROXETIN-INDUCED QTC PROLONGATION IN A PATIENT WITH TAKOTSUBO CARDIOMYOPATHY
Lead Author: Raman Marwaha, M.D.
Co-Author(s): Aasia Syed, MD, Rajasekhar Kannali, MD
SUMMARY:
Introduction: Prolongation of the corrected QT interval (QTc) on the electrocardiogram is an important clinical condition because it increases the risk of polymorphic ventricular tachyarrhythmia called torsades de pointes, a medical emergency that can cause sudden cardiac death. QTc prolongation can be induced by many drugs including antipsychotics and tri cyclic antidepressants. Compared with tri cyclic antidepressants, selective serotonin reuptake inhibitors like paroxetine are less likely to cause severe cardiac side effects and have a high cardiovascular tolerability. In general, paroxetine is well tolerated in the overall patient population and the most common adverse effects of paroxetine include nausea, headache, dry mouth, sweating, somnolence, insomnia, constipation, tremor and sexual dysfunction. The purpose of this paper is to report an additional side effect of paroxetine.
Method: Case report: We present the case of a 47 year old woman with a history of stress induced cardiomyopathy, depression, and anxiety on paroxetine 60 mg daily who developed a QTc of 530 ms. Cardiology (Electrophysiology) was consulted, patient's electrolytes were normal and no other QTc prolonging factors were found, paroxetine was held, within 24 hours of discontinuing paroxetine electrocardiogram showed a QTc of 446 ms.
Discussion: In this case, we found a clear temporal relation between QTc prolongation and the use of paroxetine. Paroxetine, like citalopram is known to exhibit QTc prolongation. While FDA has issued a warning that citalopram causes dose-dependent QTc prolongation, some cases of paroxetine induced QTc prolongation have also been reported in the literature.
Conclusion: Clinicians should be wary that paroxetine can cause QTc prolongation in patients with high risk profile. This case report also highlights the importance of routine examination of electrocardiogram and monitoring of QTc interval in patients receiving paroxetine. Clinicians should consider more frequent electrocardiogram monitoring in patients with high risk profile and electrolytes should be monitored as clinically indicated.
References:
1. Erfurth A, Loew M, Dobmeier P, Wendler G. CG changes after paroxetine. 3 case reports Nervenarzt 1998 Jul;69(7):629-31
2. Edwards JG, Goldie A, Papayanni-Papasthatis S Effect of paroxetine on the electrocardiogram Psychopharmacology (Berl). 1989;97(1):96-8
3. Wenzel-Seifert K, Wittmann M, Haen E QTc prolongation by psychotropic drugs and the risk of Torsade de Pointes Dtsch Arztebl Int. 2011 Oct;108(41):687-93. Epub 2011 Oct 14. Review
4. Tseng PT, Lee Y, Lin YE, Lin PY. Low-dose escitalopram for 2 days associated with corrected QT interval prolongation in a middle-aged woman: a case report and literature review Gen Hosp Psychiatry. 2012 Mar-Apr;34(2):210.e13-5. Epub 2011 Nov 3

Poster No. 1-67
PARTIAL SEIZURES MISDIAGNOSED AS PANIC ATTACKS
Lead Author: Diana H. Mungall, B.S.
Co-Author(s): Batoll F. Kirmani, M.D.
SUMMARY:
Partial seizures can be misdiagnosed as panic panic attacks. There is considerable overlap of symptoms between the two disorders making clinical diagnosis extremely difficult in refractory cases. We report an interesting case of a young woman who sustained a motor vehicle accident in her teens resulting in significant head trauma. She had residual mild cognitive decline and developed episodes characterized by anxiety, fear, whole body tingling and associated autonomic symptoms lasting between one to two minutes. Interestingly, there was preservation of consciousness and speech during these episodes. She was referred to our epilepsy center because of refractory panic attacks and suspicion of seizures due to head trauma. She was admitted inpatient for intensive video EEG monitoring to capture these spells for definitive diagnosis. We were able to capture few of her stereotypical episodes and they did correlate with abnormal brain waves. EEG revealed right temporal lobe seizures. Right temporal seizure focus explained the preservation of language which is left cerebral hemispheric onset in most of the cases. The patient was discharged on adequate dose of anticonvulsant with follow up in the epilepsy clinic. We conclude that intensive seizure monitoring in an epilepsy monitoring unit is crucial in refractory cases of panic attacks.

Poster No. 1-68
PERCEPTUAL DISTURBANCES ASSOCIATED WITH BUPROPION
Lead Author: Muhammad Hassan Majeed, M.B.B.S., M.D.
Co-Author(s): Olufemi Ogundeji MD, Nivedita Mathur MD, Jeffery Bedrick MD, Branden Youngman DO, Beeta Verma MD
SUMMARY:
Bupropion is a substituted phenylethylamine that is used extensively for the treatment of major depressive disorder, smoking cessation, seasonal affective disorder and attention deficit hyperactivity disorder. Bupropion and its active metabolites inhibit dopamine and norepinephrine reuptake and are related chemically to the ethylamine stimulants such as amphetamine. There is a question regarding the risk of bupropion precipitating psychotic symptoms de novo or initiating their recurrence in at-risk populations. We present three case reports: two patients developed hallucinations de novo and one patient with previous psychotic symptoms had a recurrence of the psychotic symptoms. All three patients developed symptom

with full insight and a clear sensorium. Bupropion was stopped immediately after the onset of psychosis, and it resulted in complete resolution of the psychotic features. This further provided evidence that the perceptual disturbances were caused by the use of bupropion. There is a need for careful monitoring of patients who have recently started on bupropion as it can cause a new psychosis or cause exacerbation of pre-existing psychotic symptoms. In this case clinicians should consider discontinuing the bupropion before initiating antipsychotic treatment.

Poster No. 1-69

PHEOCHROMOCYTOMA MASQUERADING AS SEVERE PANIC DISORDER AND ADMITTED TO INPATIENT PSYCHIATRY

Lead Author: Daniel Lee, M.D.
Co-Author(s): Carla Schnitzlein, DO

SUMMARY:

Pheochromocytoma (PCC) is a neuroendocrine tumor of the medulla of the adrenal glands or extra-adrenal chromaffin tissue that failed to involute after birth and secretes high amounts of catecholamines. The infrequency with which it is encountered as well its variable presentations makes it a significant diagnostic challenge. A 63-year-old Caucasian woman with a history of hypertension and hyperlipidemia as well as a 7 year history of presumptive panic disorder presented to a local military emergency room complaining of recurrent episodes of severe anxiety, headaches, and a feeling of warmth through her face and down her arms. The patient had been treated with and/or was currently being treated with traditional agents for panic disorder such as propranolol, alprazolam, and an SSRI without either reduction in the veracity of her symptoms or the frequency of her episodes. At the height of these episodes, she endorsed becoming suicidal due to this discomfort. She also endorsed growing feelings of hopelessness and suicidality due to lack of relief from her daily anxiety episodes. During one of the episodes prior to presenting to the emergency room, the patient had the foresight to place a blood pressure cuff on her arm both during and after one of the episodes and she noted an increase of 30 points systolic and 10 points diastolic from her baseline blood pressure. This finding was replicated in the emergency room prior to transfer to Walter Reed. On admission to Walter Reed, the admitting psychiatrist recognized that this presentation was not consistent with the usual presentation of panic disorder, ordered a vanillylmandelic acid (VMA), and transferred the patient to internal medicine. The urinary VMA level was later found to be elevated and the patient was found to have a unilateral adrenal tumor on MRI. Her tumor was resected several days later and her anxiety and suicidality resolved. Her symptoms did not return when the alprazolam and SSRI were discontinued. This case illustrates the tendency of providers to become focused on common disorders within their field and assume that non-classic symptoms represent an uncommon presentation of a common disorder. Clues were present to prompt providers to consider other diagnoses, such as the lack of improvement with traditional agents for panic disorder and the manner in which her anxiety episodes manifested. She told both her outpatient psychiatrist and the physician in the ER about her observed rise in blood pressure and headaches associated with her anxiety, but both mistakenly attributed this to panic episodes which are much more common. Recognition of other possible etiologies are essential for proper diagnosis and treatment in conditions such as PCC. Had the diagnosis been delayed much longer, her symptoms might have led her to act on her suicidal ideation.

Poster No. 1-70

PILOTING PSYCKES: A RESIDENT-DRIVEN HEALTH SERVICES IMPLEMENTATION PROJECT

Lead Author: Miriam Galescu, M.D.
Co-Author(s): Abraham Taub DO, Andrew Kolodny MD, Theresa Jacob PhD, MPH

SUMMARY:

Introduction: In academic medical centers, residents are at the forefront of implementing new and innovative systems for efficient patient care. Maimonides Medical Center, Department of Psychiatry hosted a pilot project of implementing the PSYCKES Medicaid Program (Psychiatric Services and Clinical Knowledge Enhancement System) in partnership with NYS Office of Mental Health (OMH). PSYCKES-Medicaid is a HIPAA compliant, web-based portfolio of tools designed to support quality improvement and clinical decision-making in the NYS Medicaid population. Our departmental leadership realized early on that residents would be the most frequent and proficient users of the PSYCKES database. Therefore, the residents were designated to pilot the project under the supervision of senior clinical faculty. Objective: Our objective was to use the PSYCKES database systematically, evaluate technical glitches and provide feedback to the OMH team in order to make it more easily accessible and user-friendly. Methods: During this 2-year project (Aug'10-June'12) our residents used PSYCKES to access information for our psychiatric emergency room patients. We provided feedback through weekly conference calls, monthly site visits and daily emails. Once the pilot phase ended, PSYCKES became available to all of our residents and training sessions commenced. When the PSYCKES database was made available to other hospitals, we participated in monthly collaborative calls and shared our experience in regard to the Consent Module, Recipient Search and how to make it a part of the medical record. Results: This project was a fruitful collaboration between our hospital and OMH that improved the accessibility of the database by systematic feedback from the people 'on the front lines' – the residents. It proved the usefulness of data sharing through many clinical utilities, such as obtaining information on patient's medications, service providers and medical comorbidities. These further translated into superior medical care, cost-effectiveness and improved communication with outpatient providers. One of our most notable contributions was resolving a rate limiting step of PSYCKES usage - the fact that it was only searchable by Medicaid ID numbers. After numerous conference calls and legislative consulting, our feedback prompted the development of another approach - a Social Security Number (SSN) based search engine. Conclusions: The PSYCKES implementation project was a success, both for Maimonides Medical Center and OMH. There is unquestionable benefit in selecting residents to design and implement projects of which they will ultimately be the most frequent users. The outcome of our project will serve as guidance for other organizations looking to start pilot projects in academic medical centers.

Poster No. 1-71

PRAZOSIN FOR TREATMENT OF NIGHTMARES AND OTHER PTSD SYMPTOMS: A LITERATURE REVIEW

Lead Author: Scott Yoho, D.O., M.B.A.

SUMMARY:

Introduction: Posttraumatic stress disorder (PTSD) is a syndrome that occurs in some people following exposure to disturbing and potentially life-threatening traumatic events. PTSD symptoms include frequent re-experiencing of the trauma (with intrusive thoughts, nightmares, or flashbacks), emotional numbing, avoidance behaviors, and persistent arousal. People who a PTSD diagnosis can have significant social, occupational and interpersonal dysfunction. Effective treatment modalities include psychotherapy and medications. Prazosin is an alpha-

adrenergic receptor blocker that has been proposed as a treatment modality for decreasing nightmares and improving sleep for patients with PTSD
Objective: To review the current literature on Prazosin as a treatment modality for nightmares and other PTSD symptoms in patients with a diagnosis of PTSD.
Method: This study consists of a literature review performed by searching PubMed using keywords: Prazosin, PTSD, Nightmares, Flashbacks, Alpha-adrenergic Receptor Blocker, Sleep. Search for these terms resulted in 159 articles, ranging in publication date from 1974 to the present. Articles were reviewed based on relevance, content, and online availability.
Results: While SSRI's are considered "first line pharmacotherapy treatment" for PTSD, patients frequently have unresolved nightmares and dysfunctional sleep patterns. In small randomized control trials, prazosin has been shown to decrease nightmares and improve sleep in patients with a diagnosis of PTSD. Patients who have taken prazosin have experienced greater average sleep time when compared to placebo and have had fewer nightmares. The mechanism of action behind prazosin's effectiveness in reducing nightmares and increasing total sleep is prazosin's reduction of corticotropin-releasing hormone, a neuropeptide elevated in PTSD. Increased CNS noradrenergic outflow in PTSD likely stimulates alpha adrenergic regulation of the prefrontal cortex, which in turn disrupts cognitive processing and increasing fear responses. This can be alleviated with prazosin administration. Patient's taking prazosin show improvement in primary outcome measures of nightmares, sleep disturbance, and global change in PTSD severity and functional status when compared to placebo. Prazosin is generally tolerated very well with mild orthostatic hypotension and dizziness as possible side effects.
Conclusions: There is literature available supporting the efficacy and safety of prazosin for treatment of trauma-related nightmares, sleep disturbance, and overall PTSD severity and function. While more research and larger scale studies are needed on prazosin in the treatment of nightmares and sleep dysfunction in people with PTSD, there is evidence to support it as a good option for patients currently. Patients who have not responded to other treatment modalities such as psychoth

Poster No. 1-72

PREVALENCE OF SUBSTANCE ABUSE IN PATIENTS RECEIVING DISABILITY BENEFITS

Lead Author: Praveen Narahari, M.D.
Co-Author(s): Shanthi Gatla , M.B.B.S , Raymond Lorenz , Ph.D. , Marianne Saitz, D.O , J. Luke Engeriser, M.D.

SUMMARY:

Objective: The aim of our study is to find the prevalence of illicit substance use in patients who are on government-sponsored/ assisted health care programs (Medicare, Medicaid, Tri-care) and comparing them with privately insured and uninsured patient populations.
Background: There are many national and state level studies that have looked at the prevalence of substance abuse and substance abuse related emergency room visits in the general population, but only a few studies focused on specific populations such as those who are on some form of government-assisted health care insurance.
Methods: Data was obtained from hospital records. We reviewed the records of all the emergency room visits in our university hospital during the period of January 1, 2011 to January 31, 2011. We obtained the following data: age, gender, race, insurance status (Medicare, Medicaid, Tri-Care, private insurance, or self-pay), urine drug screen(UDS) results, chief complaint, and discharge diagnosis. We excluded patients below the age of 21, victims of sexual abuse, and motor vehicle accident victims.
Results: We had total of 2148 admissions during the study period of which 1920 met our criteria. The mean age for all our admissions was 42.6, and the gender breakdown was 58% male and 48% female. The percentage of patients on Medicare was24.2 %, Medicaid 17.8%, Tri-care 1%, private insurance 28%, and self-pay 39 %. The total number of patients who had urine drug screens ordered was 269 (14%). The total number of patients who had a positive UDS for a drug of abuse was 80 (4.2%)The percentage of positive UDS results in patients who had test ordered was 43% for those with government sponsored/assisted 11% for those with private insurance, and 46% for self-paying patients .
Conclusion: There is a significant difference in the number of patients with UDS positive for illicit substances (cannabis, cocaine, methamphetamine, phencyclidine, lysergic acid diethylamide, and3 4-methylenedioxy-N-methylamphetamine) in patients who were on government sponsored/assisted insurance compared to patients who have private insurance. The numbers were similar between the self-pay and government insurance groups. The authors speculate that the patients who have private insurance might have job related restrictions for illicit drug use, and the prospect of losing one's job may be a deterrent to substance abuse.

Poster No. 1-73

PSYCHOSOMATIC SYMPTOMS IN HUNTINGTON'S DISEASE: A CASE STUDY AND REVIEW OF THE LITERATURE

Lead Author: Rachel Beth Goldberg, M.D., M.P.H.
Co-Author(s): Daniel Tucker

SUMMARY:

We present a unique case of a patient newly diagnosed with Huntington's disease during a psychiatric hospitalization. The patient's family brought her to the emergency room for suicidal ideation in the context of functional motor and cognitive decline over the last decade. Cognitive symptom validity tests were below expectation indicating that the results may have overestimated her impairment. A brain MRI revealed mild cortical atrophy and a normal caudate. Given a possible family history of a movement disorder, genetic testing was performed for Huntington's disease. DNA PCR amplification revealed 44 CAG repeats on chromosome 4 indicative of fully penetrant disease. Treatment with aripiprazole and sertraline resulted in significant improvement in both mood and motor symptoms. This case demonstrates that patients may unconsciously embellish symptoms of a primary neurodegenerative disease. A normal brain MRI and evidence of psychogenic etiology on neuropsychological testing cannot be used to rule out Huntington's Disease.

Poster No. 1-74

PSYCHOTROPIC DRUG-RELATED EOSINOPHILIA WITH SYSTEMIC SYMPTOMS (DRESS)

Lead Author: Rohit Madan, M.D.
Co-Author(s): Srinivas Dannaram, MD, Narpinder Kaur, MD, Ashish Shrama, MD

SUMMARY:

Introduction: Drug-related eosinophilia with systemic symptoms (DRESS) is a potentially life-threatening condition with multisystem involvement. The estimated incidence of this syndrome ranges from 1 in 1000 to 1 in 10,000 drug exposures. Antiepileptic medications, used as mood stabilizers have provided the best-studied link of any class of medications. Here, we report a case of a 26-year-old woman who developed DRESS syndrome.
Case report: A 26-year-old woman with a psychiatric history significant for schizoaffective disorder, bipolar type was treated with aripiprazole, bupropion, lamotrigine, lithium, quetiapine, sertraline and clonzepam by her outpatient psychiatrist. Her medical history was non-significant with no other medications. She had been on these medications for the past few years and no recent change was made. She was hospitalized with flu like symptoms and fever but soon developed acute respiratory failure with lung infiltrates. The most striking lab abnormality

was eosinophilia (white blood cell count of 16.5, 27% eosinophils) and elevated AST 119U/L and ALT 545 U/L. Connective tissue disease, idiopathic hypereosinophilia and viral hepatitis were ruled out by appropriate testing. Drug reaction was considered to be the most plausible cause. All of her psychiatric medications were discontinued. IV Solumedrol and Hydroxyurea were initiated but her white blood cell count increased to 85,000 with 74% eosinophils. The course was complicated by hypercoagulability with multiple brain infarcts, cardiomyopathy, bowel ischemia and GI bleeding. Patient eventually succumbed to the complications.

Discussion: Chronic therapy with multiple psychotropic agents, may have contributed to this patient's susceptibility. The diagnostic challenge of DRESS lies in the predominance of nonspecific signs such as fever, rash, and generalized lymphadenopathy early in its evolution. In a recent literature review, total of 44 drugs were described to be associated with DRESS. Of these, the most frequently reported psychotropic drugs were carbamazepine and lamotrigine.

Conclusion: DRESS syndrome is a life-threatening condition. There is a need for awareness and vigilance patients in patients who are on multiple psychotropic medications, especially lamotrigine and carbamazepine. Early detection, drug discontinuation and corticosteroid treatment is the key management.

References:

Ganeva M, Gancheva T, Lazarova R, et al. Carbamazepine-induced drug reaction with eosinophilia and systemic symptoms (DRESS) syndrome: report of four cases and brief review. Int J Dermatol. 2008; 47(8):853–860

Cacoub P, Musette P, Descamps V, Meyer O, Speirs C, Finzi L, Roujeau JC. The DRESS syndrome: a literature review. Am J Med. 2011 Jul; 124(7):588-597. Epub 2011 May 17. Review

Chang CC, Shiah IS, Yeh CB, et al. Lamotrigine-associated anticonvulsant hypersensitivity syndrome in bipolar disorder. Prog Neuropsychopharmacol Biol Psychiatry. 2006; 30:741-744.

Poster No. 1-75

QUALITY OF ALCOHOL WITHDRAWAL TREATMENT: MONITORING SYMPTOMS AND VITAMIN SUPPLEMENTATION

Lead Author: Stephanie Pope, M.D.

Co-Author(s): Kasia Gustaw Rothenberg MD, PhD, Christina Delos Reyes MD

SUMMARY:

Supplementation with Thiamine and Folate in cases of alcohol withdrawal is considered evidenced based standard of care and should be implemented in order to correct depletion, promote recovery and prevent secondary pathologies. However, in the majority of versions of Electronic Medical Records (EMR), Alcohol withdrawal monitoring protocols, Clinical Institute Withdrawal Assessment (CIWA) is separated from vitamin order sets. This IRB approved protocol presented here was designed as a quality improvement study. The main objective was to assess the consistency of supplementation treatment of alcohol withdrawal to promote necessary changes. The method included a collection of data regarding inpatient encounters to Cleveland's University Hospitals in a 6 months period during which alcohol withdrawal was included in patient care, statistically examining ratios of the CIWA order set being ordered in combination with Thiamine and/or Folate or without such vitamins. Data obtained clearly indicated that vitamins would be usually ordered late if at all, in the course of the treatment. Final statistical analysis suggested that routine standard of care for individuals in alcohol withdrawal may be improved by implementing EMR changes which would combine CIWA protocol with vitamin's orders sets.

Poster No. 1-76

RACIAL DISPARITIES IN A GENERAL PSYCHOSOMATIC PATIENT POPULATION

Lead Author: Kara Brown, M.D.

Co-Author(s): Dr. Lisa J Rosenthal, MD, FAPM

SUMMARY:

Evidence shows that minority patients have been disproportionately represented in inpatient psychosomatic consultation populations. Historically, the limited body of literature suggests fewer consultation requests were made for minority patients compared to Caucasian patients [1-3]. More recent investigations have suggested a change in this trend, with African-Americans receiving more consultations, while other minority groups continue to be underrepresented. However, many of these studies are limited by small populations or were specific to the geriatric and forensic fields; some include referrals made outside of the hospital [4, 5]. In addition, few studies include patients of Hispanic and Asian backgrounds.

We evaluated the racial demographics of the general inpatient psychosomatic consultation service at a tertiary care, urban, academic hospital: we hypothesized that there was a correlation between the race of the patient and the likelihood of having a request for psychiatric consultation. Of 48,733 inpatients hospitalized over a 10 month period between May 2011 and February 2012, 1101 received psychiatric consultations. These patients were categorized both by race and chart- documented history of prior psychiatric diagnosis. Preliminary data suggests there is a relationship between ethnicity and likelihood of consultation, with African-American patients receiving more consultations, and Hispanic and Asian patients receiving fewer consultations compared to Caucasians. Although these numbers are consistent with some of the more recent research examining disparities between minority and Caucasian patients, this represents a departure from the classic body of literature specific to psychosomatic psychiatry. More importantly, this updated data also suggests a significant deficit in the number of consultations requested for Hispanic and Asian patients. More investigation is needed to examine potential disparities in requests for psychiatric consultation, including physician reason for referral, psychiatric diagnoses, treatment recommendations, follow up with psychosomatic team recommendations and transfer to inpatient psychiatric facilities.

1. Craig TJ. Racial patterns in liaison psychiatry. J Natl Med Assoc. 1982 Dec;74(12):1211-5.

2. Collins D, Dimsdale JE, Wilkins D. Consultation/liaison psychiatry utilization patterns in different cultural groups. Psychosom Med. 1992 Mar-Apr;54(2):240-5.

3. Leo RJ, Sherry C, Jones AW. Referral patterns and recognition of depression among African-American and Caucasian patients. Gen Hosp Psychiatry. 1998 May;20(3):175-82.

4. Pinals DA, Packer IK, Fisher W, Roy-Bujnowski K. Relationship between race and ethnicity and forensic clinical triage dispositions. Psychiatr Serv. 2004 Aug;55(8):873-8.

5. Leo RJ, Narayan DA, Sherry C, Michalek C, Pollock D. Geropsychiatric consultation for African-American and Caucasian patients. Gen Hosp Psychiatry. 1997 May;19(3):216-22.

Poster No. 1-77

RECHALLENGING CLOZAPINE AFTER NEUROLEPTIC MALIGNANT SYNDROME

Lead Author: Emaya Anbalagan, M.D.
Co-Author(s): Naveen Yarasi MD, Muaid Ithman MD

SUMMARY:
Introduction: Neuroleptic malignant syndrome (NMS) is a potentially fatal manifestation of antipsychotic use associated with symptoms like mental status changes, muscle rigidity, fever and autonomic dysfunction. It is known to be associated more with typical antipsychotics but atypical antipsychotics like Clozapine are not exempt from this side effect. Clozapine is one of the most effective antipsychotics for refractory schizophrenia, but when patients develop life threatening adverse effects like NMS, treatment options become limited. Here we present a case of a patient who developed typical symptoms of NMS with Clozapine and was rechallenged with Clozapine successfully.
Case Summary: The patient was a 24 year old female with a diagnosis of schizoaffective disorder, bipolar type, who presented with paranoia, auditory command hallucinations and bizarre behavior. She was tried on three antipsychotics and three mood stabilizers which included Paliperidone. However she did not show improvement and her behavior continued to be disorganized, including but not limited to drinking out of the toilet bowl, taking several cold showers daily and having auditory hallucinations. Clozapine was started and titrated upwards. Five days after commencing Clozapine, at a dose of 100mg, she developed typical NMS features including muscular rigidity, fever, mental status changes, elevated Creatine Kinase (CK - 3078 U/L), leukocytosis and urinary incontinence. Of note is that the patient was on Lithium concomitantly. She was transferred to the medical service, treated with IV hydration and her psychotropic medications were stopped. The patient was re-admitted to psychiatric unit after her NMS symptoms resolved and she was medically stabilized. No psychotropic medications were started for two weeks and then clozapine was rechallenged at a low dose of 25 mg at bedtime and titrated upwards slowly over a period of 10 days to 200mg daily totally. Her symptoms improved and she was at her baseline on discharge after an inpatient stay of almost 4 months totally.
Discussion: A review of literature revealed only 5 reports (1991 - 2001) of patients who had developed typical NMS with Clozapine who were rechallenged with the drug after an average time of 8.5 weeks. In consensus patients who develop NMS with Clozapine can be rechallenged after a reasonable period of time; 2 weeks in our patient. Concomitant use of Lithium has been shown to be associated with increased neurotoxic effects. Rechallenge is usually successful if care is taken to avoid concurrent use of Lithium and other psychotropics, dosing by starting at low doses and titrating upwards slowly while monitoring closely for emerging NMS symptoms. Serial CK levels can be adopted for more close monitoring. Although NMS with Clozapine is rare, physicians should be aware that emergence of NMS should not be a deterrent to rechallenging the drug again, provided slow careful dose titration is done.

Poster No. 1-78

REVIEW OF RAPID RESPONSE TEAM IN AN ACUTE PSYCHIATRIC UNIT

Lead Author: Jennifer Vreeland, D.O.
Co-Author(s): Laura Diamond, M.D., Jessica Poster, B.A., Jessy Warner-Cohen, Ph.D., M.P.H., Victoria Balkoski, M.D.

SUMMARY:
Rapid Response Teams (RRT) are a mainstay in modern hospitals. The role of the RRT is to assess and treat patients demonstrating a change in medical status, thereby preventing the need for further deterioration and intensive care (psnet.ahrq.gov). Some studies indicate decreased cardiac arrests, ICU admissions, and mortality with implementation (Jones et al., 2011) while other studies indicate improvement is unclear (Litvak & Pronovost, 2010). Nonetheless, they are a reality in many hospital settings. Research has not yet examined, though, the role of the RRT on a psychiatric inpatient setting. Some studies have specifically excluded psychiatric floors (Lighthall et al., 2010). One study indicated that in the context of evaluating RRTs for the entire hospital, 8.3% of all RRT responses were to the psychiatry floor although there was no increase relative risk of event for psychiatric patients (Beitler et al., 2011). The present study was part of a quality assurance initiative to increase awareness about psychiatric patients at risk of medical complications. This retrospective study was conducted on an active inpatient psychiatry unit in an academic medical center. The sample size was small, consisting of 19 discrete patients over a two year span. Average age was 47.9 years. Average hospital length of stay was 14.63 days. Over half had been transferred to the psychiatry unit from a medical unit (57.9%) with the average length of stay on the medical unit 7.4 days. The most common psychiatric diagnoses were substance abuse (63.2%) followed by depression (47.4%), bipolar (36.8%), psychosis (31.6%), anxiety (21.1%), and 'other' (10.5%). Over half (55%) had an Axis II diagnosis. Nearly one-third of RRT initiation was due to neurologic or 'other' reasons (each 31.6%, N=6). This was followed by cardiac issues (26.3%) and issues with breathing (10.5%). The majority of patients (63.2%) had an internal medicine consult prior to RRT. Some significant positive correlations include days on the unit prior to RRT and age, age and the number of non-psychiatric medications, number of consults and anxiety, and number of non-psychiatric medications and initiation of RRT for breathing issues. Fisher's Exact Test indicates significant associations between the groups of "other' reason for RRT and presence of psychosis, and being transferred from a medical unit and infectious disease diagnosis. There are trends for association between 'other' reason for RRT and gender, gender and infectious disease, and cardiac medical diagnosis and Axis II diagnosis. This study describes potentially medically acute patients on a psychiatric inpatient unit. It raises awareness of the medical issues affecting psychiatric inpatients. Future research should more thoroughly investigate medical comorbidities within a psychiatric population as well as compare characteristics of this group to similarly medically complicated patients that did not require RRT intervention.

Poster No. 1-79

SELECTIVE MUTISM IN ADULTS: CASE REPORT AND REVIEW OF LITERATURE

Lead Author: Josepha Iluonakhamhe, M.D.
Co-Author(s): Vishal Madaan, MD

SUMMARY:
Selective mutism is a multidimensional diagnosis often reported in children and adolescents (estimated prevalence <1%), but rarely seen in adults. It is usually attributed to a multifactorial etiology, including the patient's temperament, and can often be a manifestation of a conversion disorder or a symptom of primary thought or affective disorders. Common comorbidities associated with selective mutism (especially in children) include obsessive-compulsive disorder and major depressive disorder (MDD).
We describe the case of a 69-year-old female with a past psychiatric history significant for MDD and generalized anxiety disorder, who was transferred from neurology for management of worsening depression. She was initially hospitalized for two episodes of new-onset seizure-like activity with a negative workup for stroke and seizure. After being diagnosed with pseudoseizures, the patient presented with mutism, appeared frightened, had a flat affect and refused oral intake. While no neurological deficits were noticed, she required full assistance for her activities of daily living (ADLs). She did not have any posturing, stereotyped movements, rigidity, negativism or echolalia. She would respond only to her husband via nods and whispered monosyllabic responses. Interestingly, both her

mother and her sister had similar clinical presentations in the past. During the course of her hospitalization, she was started on lorazepam and duloxetine, but had minimal improvement. She became disoriented on higher dose of lorazepam, which was then discontinued. She remained selectively mute, intermittently akinetic, and appeared frightened with a flat affect and poor eye contact. Her duloxetine dose was increased and low-dose olanzapine was added due to her suspiciousness. Since the symptoms appeared to improve only in the presence of her husband, visiting hours for the patient's husband were waived. With that change, her symptoms progressively improved until discharge with no further medication changes. Thereafter, she displayed full affect, attended to all ADLs independently, and became more engaging with staff. Selective mutism can either present as a symptom of primary thought or affective disorders or be secondary to conversion disorders or delirium. In the aforementioned case, the patient's presentation was likely due to an underlying affective disorder with superimposed conversion disorder that manifested as selective mutism without any other catatonic features. Another aspect of her presentation that is consistent with a conversion disorder included her waxing and waning symptoms that were dependent on the presence of her husband. Interestingly, her family history of selective mutism also supports the diagnosis of conversion disorder, as noted in a number of case reports on mutism. Common treatment approaches for selective mutism often include family and interpersonal interventions, but may also include use of anti-depressant/anti-anxiety medications

Poster No. 1-80

SEVERE AKATHISIA WITH ATOMOXETINE: A CASE REPORT

Lead Author: Raman Baweja, M.D.

Co-Author(s): Lidija Petrovic-Dovat, MD

SUMMARY:

Introduction: Atomoxetine is a selective norepinephrine reuptake inhibitor which has been approved by Food and Drug Administration (FDA) for treatment of attention-deficit/ hyperactivity disorder (ADHD) in adults, adolescents and children over age 6. ADHD is one of the most common mental health disorders in children and adolescents in the United States affecting about 3 - 5% of school age children. We report the case of a 12-year-old girl who developed symptoms of akathisia after atomoxetine was prescribed for ADHD.

Case: Here we present a case of a 12 year-old girl who was diagnosed with ADHD at age 8 years, and was stable on amphetamine salts (Adderall 10mg) for the last 1 ½ years. Three weeks before the patient was presented for psychiatric evaluation, Adderall dose was decreased by the primary care provider to 5mg due to low appetite. The patient was started on the atomoxetine. Over the next 12 days, the dose of atomoxetine was increased at the rate of 10 mg/day to 25 mg/day. After 2 days on atomoxetine 25mg/day, the patient started complaining of severe anxiety, subjective restlessness, and expressed a constant need to move. As per the parent, the patient was pacing around and was very agitated. Atomoxetine and Adderall were discontinued. Patient's symptoms subsided 4 days after discontinuing both Adderall and atomoxetine. We postulate that atomoxetine was the causative agent due to the temporal onset of akathisia after introducing this medication to the adderall as she was already on adderall 10mg for the last 11/2 years and dose was also decreased to 5mg at the time of starting her on atomoxetine.

Discussion: "Atomoxetine-induced akathisia" has not been reported in the literature. The exact pathophysiology of akathisia is unknown and the most acceptable hypothesis is postsynaptic dopaminergic blockade in mesocortical pathway. Serotonergic and noradrenergic -mediated inhibition of the dopaminergic system has been reported. This would theoretically explain the akathisia caused by atomoxetine. Adderall and atomoxetine are both metabolized by the same CYP2D6 and they do not have any inducers or inhibitory properties at the CYP level. Thus, it is unlikely that any pharmacokinetic interaction has contributed to the akathisia presentation in this case.

Conclusion: Clinicians should be aware about akathisia associated with the atomoxetine treatment and should monitor closely when starting this medication with other psychotropic medications. Future studies are needed to further explore these findings and to understand the underlying mechanisms.

Poster No. 1-81

SEVERE FACIAL DISFIGURATION IS ASSOCIATED WITH HIGH RATES OF PSYCHOPATHOLOGY: PRELIMINARY FINDINGS

Lead Author: Yael Wolf, M.D.

Co-Author(s): Laurence S. Paek MD,CM, M.A Danino MD PHD, Aris Hadjinicolaou, Bénédicte L'Heureux-Lebeau, Nancy CP Low, MD, MSc

SUMMARY:

INTRODUCTION: Severe facial disfiguration irrespective of etiology is associated with emotional, social and behavioral problems. Facial transplantation has recently emerged as an option for patients with disfiguration which had not been correctable by previous conventional reconstructive surgery. Given the risks associated with facial transplantation, the psychiatric correlates and impairment caused by the disfiguration need to be investigated. The aim of this study is to conduct a comprehensive psychosocial and quality of life evaluation of severely disfigured patients, with the ultimate goal to better address the psychological and psychiatric needs of this population.

METHODS: This study is a cross-sectional case-control study. All patients aged 18 or older reconstructed for major disfigurement between 2007-2010 at one hospital center by a single surgeon were approached for recruitment. Major disfigurement was defined as being at least 30% of the facial surface area or two facial aesthetic subunits. Controls were defined as patients who had same etiology of disfiguration (tumor, burn, etc.), but whose disfiguration did not affect the face. Participants were administered self-report questionnaires assessing socio-demographic data, quality of life (SF-36, EORTC), anxiety (SPIN, PSWQ PD screen), depression (BDI), substance use (ASSIST, DAST), self-esteem (Rosenberg), body image (MBSRQ, SIBID), suicidality, social support, coping styles and facial appearance-related distress.

RESULTS: Preliminary data analysis of 12 facially disfigured patients indicates that despite conventional reconstructive surgery, 67% of the patients are dissatisfied with their facial appearance. 64% of the patients consider themselves at least moderately disfigured and 55% of the patients are at least moderately distressed by their facial appearance. 25% of the subjects had poor self-esteem. 33% of the subjects had at least moderate social phobia. 33% of the subjects had at least moderate depressive symptoms. "Emotional coping" (guilt/self-blame coping), inadequate social support and lack of significant other were all factors associated with depression and social phobia.

CONCLUSION: Facial disfiguration has negative effects on mental health, with a third of subjects suffering from depressive symptoms and a third suffering from social phobia. Data analysis of the second phase of this study, which will include assessment of controls, is currently underway and will serve to expand upon these preliminary analyses.

Poster No. 1-82

SEXUAL FUNCTIONING AND QUALITY OF LIFE IN OPIOID-DEPENDENT WOMEN MAINTAINED ON BUPRENORPHINE/NALOXONE

Lead Author: Roopa Sethi, M.D.

Co-Author(s): Varma Anjali, Herbertson Robert, Kablinger Anita, Seidel Richard, Hartman David

SUMMARY:

Background: Long term use of opioids is known to cause sexual dysfunction. Although results vary, problems with sexual functioning have been reported in males maintained on buprenorphine/naloxone. Buprenorphine/naloxone is becoming a popular option for opioid dependent women, given its advantages over methadone and recently identified safety in pregnancy. To our knowledge sexual functioning of females maintained on buprenorphine/naloxone has not been studied.

Objectives: To examine sexual functioning, quality of life, depression, anxiety and stress levels of females with opioid dependence maintained on buprenorphine/naloxone in comparison to community norms.

Methods: Twenty-one, non-pregnant female psychiatric outpatients, ages 18-55, maintained on buprenorphine/naloxone were recruited. Subjects were interviewed to obtain psychiatric history and complete the FSFI (Female Sexual Function Index), DASS (Depression, Anxiety and Stress Scale) and the Q-LES-SF (Quality of Life Enjoyment and Satisfaction Questionnaire-Short Form). Data was compared with existing community norms.

Results: Twenty-one females met criteria and consented to participate. The mean age was 35.6±8.4 (19-50) years, mean years of formal education was 12.7±1.5(10-16), mean body mass index (BMI) was 32.3 kg/m2± 8.9(19.0-52.1). Sixteen subjects were currently sexually active. Mean dose of buprenorphine/naloxone was 17.7±6.0 mg/day. On the FSFI, subjects were more likely to have sexual dysfunction(19.1±12.8) $p<0.0001$ compared to community norms. Results for the subscales evaluating satisfaction, lubrication, pain, desire orgasm, and arousal were also highly significant with $p<0.0001$. Quality of life was rated significantly poorer on QLES-SF (47.6±7.9; $p<0.0001$). However, for the DASS subscales, the depression mean was (9.8±11.5; $p<0.0166$), anxiety mean (7.5±5.9; $p<0.0036$) and stress mean (13.5 ±9.7; $p<0.0344$). The data were analyzed using the 2-sided Fisher's Exact Test for categorical data and 2-sided one- and two-sample t-tests for scale data.

Conclusions: These results suggest that women maintained on buprenorphine/naloxone suffer from sexual dysfunction that frequently may go unidentified and untreated, which in turn contributes to poor quality of life. This sample did not differ significantly from the community on the DASS, indicating that sexual dysfunction may indeed be medication related and not due to ongoing psychiatric comorbidity or its treatment. With buprenorphine/naloxone becoming a more popular treatment for opioid dependent, reproductive-age females, further research is warranted.

Poster No. 1-83

SHORT BOWEL SYNDROME AND SOCIOPATHY: FROM INTERPRETATION TO INCARCERATION

Lead Author: Hari Krishnan Nair, M.D.

Co-Author(s): Susan Dalton, M.D., Efrain A. Gonzalez, Psy D, Dominique Musselman M.D

SUMMARY:

Background: Limited research has been performed regarding successful interventions in fostering compliance to complex medical regimens in patients with antisocial personality disorder (ASPD). The existing evidence within the non-forensic, medical-surgical setting is even more sparse. Patients with antisocial syndromes are prone to physical injuries due to their impulsive and reckless behaviors. For this reason, these patients are often admitted to medical-surgical floors for the appropriate treatment of their injuries. The prolonged rehabilitation required of patients with short bowel syndrome (SBS), defined as small intestine length of less than 200 cm (89 inches), serves as an ideal medical-surgical model in which to examine interventions that foster compliance in this difficult-to-treat patient population.

Methods: A review of relevant literature was performed and a case history is presented.

Results: Due to their consistent disregard for established norms and rules, patients with antisocial syndromes typically fail with behavioral treatment plans and limit setting in the non-forensic, medical-surgical treatment. Creative environmental and psychopharmacologic interventions can help reduce self-destructive actions. With complementary goals of minimizing patient morbidity and improving staff morale, a treatment algorithm is presented consisting of a thorough bio-psycho-social assessment and multi-disciplinary interventions for patients with antisocial disorders and SBS. This algorithm emphasizes an increased focus on pain control, fostering family support, and consistent surveillance within the therapeutic relationship.

Conclusion: Treatment algorithms of patients with antisocial syndromes should focus on maximizing short-term gratification through self-valued outcomes. The algorithm identified in this case can be used in other patients with antisocial syndromes undergoing complicated medical or surgical treatment regimens.

Poster No. 1-84

STABILITY OF INSIGHT AND ASSOCIATED FACTORS IN OLDER ADULTS WITH SCHIZOPHRENIA

Lead Author: Judy Burke

Co-Author(s): Ifeanyi Izediuno, MD, Carl I. Cohen, MD

SUMMARY:

Rationale: There has been a paucity of research examining insight in older adults with schizophrenia. Greater insight has been associated with a number of clinical and social outcome variables. The aim of this study is to examine the prevalence and stability of insight in this population, the factors affecting insight, and the impact of insight on clinical and social measures.

Methods: The study consists of 250 New York City residents aged 55 and older with schizophrenia spectrum disorders; all patients developed the disorder prior to age 45. Data on 104 subjects followed for a mean time of 52 months are presented; there were no significant differences at baseline between those in the follow-up group and those who did not complete the study. Mean subject age during the study period was 61 years old; 55% are male, and 55% are white. Insight was considered present if the person acknowledged that they have a mental illness. A review of insight in schizophrenia by Chakraborty & Basu (2010) postulates multiple dimensions of insight; these were used as the basis for determining predictors of insight. In addition to gender and age, 8 dimensions were identified as predictors of insight.

Results: 62% of persons had insight at baseline (T1) and at follow-up (T2), 16% had no insight at T1 and T2, and 25% fluctuated between the two categories. There was no significant difference in prevalence of insight at T1 (78%) and T2 (69%). Using logistic regression analysis, there were four T1 predictors of insight at T2: insight at baseline, younger age, lower levels of conceptual disorganization, and lower levels of blunted affect. Insight at T1 predicted two variables at T2: greater number of confidantes and greater service use.

Conclusions: The prevalence of insight in older adults is higher than estimates reported in younger populations. Insight is generally stable in later life, but one-quarter of persons show some fluctuations in insight. Of 8 dimensions of insight, only 2 were predictive of insight over time: one related to positive

symptoms, and one related to negative symptoms. Notably, insight decreased with age. Although insight increased service use and predicted having a greater number of confidants, it did not affect any other clinical or social variables.

Poster No. 1-85

STOP AND DON'T SMELL THE SHOE POLISH: THE USE OF INHALANTS AMONG ADOLESCENTS

Lead Author: Natalia Miles, B.S.
Co-Author(s): Andrey Moyko
A. Alao

SUMMARY:

Introduction: Inhalant abuse among U.S. adolescents is a common occurrence. Unlike the illegal drugs, inhalants are readily available in an average household in many forms. According to the National Inhalant Prevention Coalition, between 100-125 deaths are attributed to inhalant abuse annually. We will describe a case of a Kenyan immigrant who developed acute psychotic episode following inhalation.
Case Report: A 17 year old Kenyan immigrant was brought to the ED after inhaling shoe polish. She has a history of PTSD from being raped while on the street in Kenya. She was later adopted and brought to the USA. Her psychotic symptoms resolved after she was treated with olanzapine 5mg.
Discussion: Medical complications include, but are not limited to the following: central nervous system, cardiovascular, pulmonary, gastrointestinal, renal, hematologic, and dermatological. In addition, to medical complications, there are psychiatric complications as well. Adolescents abusing inhalants may often present with hallucinations, emotional disturbances, inappropriate affect, manic symptoms, or suicidal ideation. Inhalant use has also been associated with conduct disorder in adolescents, as well as major depressive disorder and substance abuse disorder later in life.
Conclusion: The use of inhalants to achieve a "high" continues to be a dangerous occurrence within the adolescent population. The consequences of inhalant abuse go beyond the immediate medical complications or social effects. An adolescent's mental health may be severely impaired, with psychiatric effects extending well into adulthood. Physicians and parents should be aware of the possibility of psychosis caused by inhalant abuse.

References

1. Jauch, Edward C MD, MS, FAHA, FACEP. (Updated: Apr 16, 2012). Inhalants. Medscape.
http://emedicine.medscape.com/article/1174630-overview#showall (Accessed October 24, 2012).
2. National Institute of Health. National Institute of Drug Abuse. (Revised December 2011). Drug facts, Inhalants.
http://www.drugabuse.gov/publications/drugfacts/inhalants. (Accessed October 23, 2012).

Poster No. 1-86

SUICIDALITY AND MELANCHOLIA IN A 17-YEAR-)LD FEMALE: THE EFFECTS OF CYBER-BULLYING

Lead Author: Efosa Airuehia, M.B.B.S., M.D.
Co-Author(s): Dr Balkozar Adam

SUMMARY:

Cyber bullying has variously been referred to as electronic bullying and bullying using technology. It involves the use of electronic technology including devices such as cell phones, computers, tablets and game consoles, as well as communication tools such as text messages, emails, chat rooms, websites and social media sites like Facebook, Twitter and MySpace. Unfortunately, this is a growing problem, which is yet to receive the attention it deserves. Kowalski and Limber reported that among their sample of 3,767 middle school students in the southwestern and northwestern United States, 22% reported involvement in cyber bullying.

Poster No. 1-87

TACROLIMUS AND PSYCHOSIS IN POST-TRANSPLANT RECIPIENTS

Lead Author: Beeta R. Verma
Co-Author(s): Sunil Verma, M.D., Nivedita Mathur, M.D., Vishal Verma, M.D., M.B.A, Amirali Sayadipour, M.D.

SUMMARY:

Tacrolimus is a potent immunosuppressive agent used to prevent graft-versus-host disease after bone marrow and other organ transplantation. We report three patients with no prior psychiatry history with apparent tacrolimus-induced psychosis. To our knowledge, there are few reports that describe psychosis induced by the immunosuppressant drug. It is imperative to quickly identify patients who develop a mental status change while on tacrolimus, substituting with another immune-suppressant, and possible use of antipsychotics. We came to the conclusion that the symptoms of tacrolimus-associated neurotoxicity may be reversed in most patients by substantially reducing the dosage of immunosuppressant or discontinuing these drugs. Sometimes tacrolimus blood levels can be in normal range and patient can still have symptoms and symptoms can be improved dramatically when the tacrolimus is stopped.

Poster No. 1-88

TEENAGER OBESITY AND SUICIDAL BEHAVIOR: ANALYSIS FROM THE 2011 YOUTH RISK BEHAVIOR SURVEY

Lead Author: Daniel Almeida, M.D.
Co-Author(s): Shanel Chandra, MD.; Kevin Chou; Erick Messias, MD., MPH., PhD.; Tolga Taneli,MD.

SUMMARY:

Introduction: Obesity/overweight has been declared an epidemic and a public health crisis among children worldwide due to an alarming increase in its prevalence. In the United States, changes in obesity prevalence from the 1960s show a rapid increase in the 1980s and 1990s, when obesity prevalence among children and teens tripled, from nearly 5% to approximately 17%, affecting approximately 12.5 million children and teens. Overweight is associated with a higher prevalence of intermediate metabolic consequences and risk factors. Perhaps the most significant short-term morbidities for overweight/obese children are psychosocial and include social marginalization, decreased self-esteem, and decreased quality of life. Studies have found that overweight adolescents have higher prevalence of depressive symptoms and lower self-esteem when compared to their normal-weight peers. Self-harm and suicide are also major health problems in adolescents. Suicide is the second most common cause of death in young people worldwide. Hospital statistics have found that self-harm has greatly increased in adolescents in the past few decades. Research into adolescent suicide has focused primarily on family origins of the behavior and on psychiatric disorders. We hypothesized that teenager obesity have direct relationship with not only depression but also suicidality. We tested our hypothesis using the 2011 CDC Youth Risk Behavior Survey (YRBS) national sample.
Methodology: The YRBS is a biennial cross-sectional school based survey maintained by the Center for Disease Control and Prevention (CDC) since 1991 to monitor youth behavior that influences health. From the data of the 2011 YRBS we used to estimate prevalence and measure associations between obesity, depression, and suicidality among teens. Logistic regression models were calculated to adjust for confounders including age, sex, race/ethnicity.
Results: We found a statistically significant relationship between Obesity and Depression (AOR: 1.229, 95%CI: 1.068-1.414); Obesity and Suicidal Ideation (AOR: 1.451, 95%CI: 1.172-1.795); Obesity and Suicide Plan (AOR: 1.337, 95%CI: 1.090-1.641). We did not find statistically significant relationship between Obesity and Suicidal Attempt (AOR: 1.214, 95%CI: 0.900-1.638) and

Obesity and Treatment for Suicide Attempt (AOR: 1.673, 95%CI: 0.953-2.936).
Conclusion: The data from the 2011 YRBS shows that there is statistically significance between Obesity and Depression, Suicidal Ideation and Suicidal Planning. Other confounders, such as drug and alcohol use and "disordered eating" can be added in this logistic regression. Limitations: cross-sectional data, self-reported, and little details on exposure (obesity) and outcome (suicidality and depression). This study is in resonance with previous studies and corroborate to raise the concern of Teenager Obesity and its multidimensional detrimental impact in our society.

Poster No. 1-89

THE DEVELOPMENT OF SUICIDAL IDEATION WITH DULOXETINE TREATMENT: A CASE REPORT AND LITERATURE REVIEW

Lead Author: Nicole Guanci, M.D.
Co-Author(s): Rashi Aggarwal, M.D.

SUMMARY:

Background: In 2005, the United States Food and Drug Administration issued a mandatory warning for antidepressants involving the risk of suicidality in all age groups. For duloxetine, a reuptake inhibitor of serotonin and norepinephrine approved for treating Major Depressive Disorder (MDD), initial clinical trials did not show evidence of an increased risk of suicide. Despite this data, several cases have been reported involving the development of suicidal ideation with duloxetine use, primarily during the initial week of treatment and with titration to higher doses. Here, we present a case involving the development of suicidal ideation after 9 days of treatment with only 30mg of duloxetine.
Case: We present a case of a 25-year-old Caucasian man with a history of MDD and opiate dependence in early partial remission. Prior to the onset of pharmacotherapy, the patient reported mild depression, anhedonia, and no suicidal thoughts. He had not used any illicit substances or alcohol for 3 months. He was started on duloxetine 30mg PO daily. Two days prior to the onset of suicidal thoughts, he experienced decreased need for sleep, racing thoughts, and increased energy. Nine days after starting duloxetine, he experienced sudden-onset suicidal ideation and jumped out of a two-story window, sustaining a pelvic and left acetabular fracture.
Discussion: In this case, the onset of suicidal thoughts was considered consistent with a medication-induced event, since the patient had no prior suicidal thoughts and only mild depressive symptoms. In a meta-analysis of clinical trials for duloxetine by Acharya, et al., there were 5 suicides and 26 attempts of the 4,950 depressed patients treated with duloxetine, which compared favorably with other antidepressants and lead to the conclusion that there was no significant difference in the incident of suicide with duloxetine versus placebo. However, in a literature review, 7 cases involving the development of suicidal ideation with duloxetine treatment were reported. In this case, the onset of suicidal thoughts occurred after 9 days of treatment (while most reported cases occurred during the first month, the greatest risk was noted during the first week) and on a dose of 30mg daily of duloxetine (unlike the majority of reported cases, which involved doses of 60 to 120mg). Further, this case illustrates the "activation syndrome" previously described in the literature, which refers to symptoms of hypomania after onset of antidepressant treatment, which predispose to suicidal risk. This is postulated to occur as a result of underlying Bipolar spectrum disorders versus more potent serotonin and norepinephrine blockade.
Conclusion: This case not only highlights the potential for emergence of suicidal ideation with duloxetine treatment, but also emphasizes the importance of close monitoring for both suicidality and activating symptoms throughout the course of treatment and even with lower, starting-level doses.

Poster No. 1-90

THE EFFECT OF INSOMNIA SEVERITY ON THE ASSOCIATION BETWEEN DAYTIME SLEEPINESS AND SLEEP APNEA SEVERITY IN OBSTRUCTIVE SLEEP APNEA SYNDROME

Lead Author: Miyoo Cheon

SUMMARY:

Introduction: Daytime sleepiness is one of important clinical features of obstructive sleep apnea syndrome (OSAS). There has been a controversy whether daytime sleepiness is proportional to severity of sleep apnea or not. We aimed to reveal how Pittsburgh sleep quality index (PSQI) affects the association between daytime sleepiness and sleep apnea severity in OSAS under the assumption that it is affected by insomnia severity.
Methods: 235 male subjects (40.5±10.8 years) who were diagnosed OSAS by clinical history and nocturnal polysomnography (NPSG) were selected. Epworth sleepiness scale (ESS) was achieved in these subjects. First, we conducted Pearson's correlation analysis among sleep and mood related self-reported data, polysomnographic data, and demographic data of all subjects. Then we divided the subjects into 2 groups, group A (n=75; 39.7±11.3 years) and B (n=160; 40.8±10.5 years), based on PSQI. Group A's PSQI score was 5 or lower than 5 and group B's PSQI score was greater than 5. After grouping, we carried out partial correlation analysis between ESS and other data in each group using controlling factors such as Beck depression inventory (BDI) and Beck anxiety inventory (BAI). Finally, we used multiple linear regression analysis to investigate the factors which affect to ESS in group A.
Results: There were weak correlations or no correlation between ESS and apnea severity data such as apnea-hypopnea index (AHI) (r=0.148, p=0.023), apnea index (AI) (r=0.137, p=0.036), hypopnea index (HI) (r=0.058, p=0.377), oxygen desaturation index (ODI) (r=0.149, p=0.022), and arousal total index (ATI) (r=0.129, p=0.048) in Pearson's correlation analysis of all subjects. Positive correlations between ESS and AHI (rp=0.313, p=0.008), AI (rp=0.339, p=0.004), ODI (rp=0.289, p=0.015), and ATI (rp=0.256, p=0.031) were revealed in group A with no correlation between ESS and apnea severity data in group B. AI (t=2.996, p=0.004) and BAI (t=2.721, p=0.008) were associated with ESS in group A by multiple regression analysis.
Conclusions: The correlation between daytime sleepiness and sleep apnea severity was shown only in Group A which was 5 or lower than 5 in PSQI score. In this study, we suggest that association between daytime sleepiness in OSAS and sleep apnea severity will become prominent when controlling insomnia related variable.

Poster No. 1-91

THE EFFECT OF PHYSICIANS' BODY WEIGHT ON PATIENT ATTITUDES: IMPLICATIONS FOR PHYSICIAN SELECTION, PHYSICIAN TRUST, AND MEDICAL ADVICE FOLLOWING

Lead Author: Jessica A. Gold, M.S.
Co-Author(s): Rebecca M. Puhl, PhD, Joerg Luedicke, M.S., Jenny A. DePierre, B.A.

SUMMARY:

Introduction/Hypothesis: Research has documented negative stigma by health providers toward overweight and obese patients, but it is unknown whether physicians themselves are vulnerable to weight bias from patients. This study assessed public perceptions of normal weight, overweight, or obese physicians to identify how physicians' body weight affects patients' selection, trust, and advice following of providers.
Methods: A sample of 358 adults completed an online experimental survey to assess their perceptions and opinions of physicians described as either normal weight, overweight or obese.
Results: Respondents reported more mistrust of physicians who are overweight or obese, were less inclined to follow their medical advice, and were more likely to change providers if their

physician appeared overweight or obese, compared to normal weight physicians who elicited more favorable opinions from respondents. These biases remained present regardless of participants' own body weight, and were more pronounced among individuals who demonstrated stronger weight bias toward obese persons in general.
Conclusions/Discussion: Physicians perceived to be overweight or obese may be vulnerable to biased attitudes from patients, including negative perceptions about the doctor-patient relationship such as physician selection, physician trust, and advice following. Stigma reduction approaches may be beneficial to educate patients (and the general public) about weight bias, to help challenge stereotypes that could ultimately threaten the quality of provider-patient interactions and the extent to which patients follow advice and feel comfortable discussing their health concerns.

Poster No. 1-92

THE IMPACT OF IMPLEMENTATION OF A PSYCHIATRIC EMERGENCY DEPARTMENT ON RESTRAINT UTILIZATION

Lead Author: Maryam Rakhmatullina, M.D.
Co-Author(s): Abraham Taub DO, Tuhin Gupta, MD, Hande Okan, MD, Merima Jurici MD, Antonios Likourezos MA, MPH, Corey Weiner MD, Victoria Terentiev, BA, Lucas McArthur, MD, Christian Fromm MD, Theresa Jacob PhD, MPH.

SUMMARY:
Introduction: Use of restraints is detrimental for patients' physical and mental health. Though it helps in managing agitated patients, adverse outcomes have been reported. Psychiatric emergency departments (PEDs) have been established to improve quality of patient care and safety. However, no studies examined the impact of PEDs, with their specialized approach to management of agitation, on the culture of restraint utilization. Objective: To determine if implementtation of a PED has an impact on the culture of restraint utilization in the general ED. We hypothesize that a PED does have a positive impact. Methods: Electronic charts of the 250,000 patients that visited 1 year before and 2 years after the opening of a PED (approximately 70,000 adult patients/ year), were searched using the keyword "restraint". Of these, about 1% of cases were restraints that pertained to the management of agitated patients. The outcomes measured included: number of patients in restraints, number of patients placed in restraints without prior medication administration, number of extremities in restraints, duration of restraint episodes, medications, and adverse outcomes. In addition, patient demographics, time of patients' arrival, time of the day restraints were initiated, length of ED stay, years of work experience and gender of physicians ordering restraints are recorded. Results: Preliminary analyses demonstrate a decrease in restraint episodes and in the average length of stay in restraints. There was an increase in the number of psychiatric consultations called for patients placed in restraints, as well as a decrease in the time between patients' arrival to the emergency room and psychiatry being called. Data review is ongoing to determine whether the availability of having a Psychiatric ED improved the quality and safety of patient care. Conclusions: The results of this study will guide further steps in implementing hospital wide restraint reduction initiatives that include: cultural changes that relate to restraint usage, enhancement of staff-training in conflict de-escalation techniques and the development of a Restraint Code Team ultimately resulting in decreased restraint related morbidity and mortality.

Poster No. 1-93

THE INCIDENCE OF CONCUSSION PRESENTING AS DE NOVO OR WORSENING OF PSYCHIATRIC SYMPTOMS

Lead Author: Emily Williams, B.S.
Co-Author(s): Nolan Williams, Jeff Bodle, Jay Madey, Rebecca Lehman, Lee Lewis, Jonathan Edwards

SUMMARY:
Introduction: Sports concussion is a topic of very high interest in public opinion, and is frequently referred to in the media. Concussion is a complex pathophysiological process, induced by traumatic biomechanical forces and resulting in a graded set of clinical syndromes that may or may not involve loss of consciousness. Concussion can result in long-lasting effects on cognition as well as mood and affect regulation. While psychiatric symptoms have been demonstrated in athletes with prolonged post-concussive syndrome, the incidence and type of acute psychiatric presentations of concussion has never been described per our literature review.
Methods: We performed a retrospective chart review of 128 patients receiving immediate post-concussion care at our Sports Neurosciences Clinic. The charts were reviewed for presence or absence of any of the distinct psychiatric symptoms listed below.
Results: Of the 128 total subjects, there were 59 players with a psychiatric symptom as part of their immediate post-concussive symptom constellation. Sleep disturbance was the most common psychiatric presentation (26%). Other psychiatric presentations included: irritability (13%), mood lability (7%), increased emotionality (5%), sadness (4%), tearfulness (4%), personality change (6%), fatigue (6%), suicidal ideation (3%), impulsivity (2%), anxiety (2%), and affect change (2%).
Conclusion: Psychiatric complaints are a common presenting symptom of an acute concussive injury. Recognition of psychiatric sequelae is crucial for return to play decision making, as these are typically the symptoms that go unrecognized in the concussed athlete.

Poster No. 1-94

THINGS AREN'T ALWAYS WHAT THEY APPEAR: HALLUCINATIONS IN CHARLES BONNET SYNDROME

Lead Author: Carla Schnitzlein, D.O.
Co-Author(s): Daniel Lee, MD

SUMMARY:
Charles Bonnet syndrome (CBS) is a condition that causes patients with visual loss to have complex visual hallucinations. Correct diagnosis is problematic due to significant presentation overlap with delirium. As cognition remains unaffected, many sufferers avoid presentation for fear of being deemed "crazy."
A 72-year-old oxygen-dependent Caucasian female with a medical history significant for chronic back pain, sciatica, chronic obstructive pulmonary disease, nicotine dependence, and Stargardt disease who was admitted for diagnostic work up of new onset vivid, fully formed visual hallucinations. She had noted vibrant colors in her visual fields for two weeks, initially beginning in the evening, but progressing to the majority of her waking hours. In addition to the colors, the patient was observed to be responding to internal stimuli. She noted that she was seeing familiar individuals from her past walking about the room. No fear accompanied their appearance, and they would obey her verbal commands. Other hallucinations were physician notes falling from her home ceiling and a doppelganger of her pastor who sat in air to the upper right of her actual pastor. The pastor had a conversation with her, but the doppelganger was unable to speak. Her neighbors reported seeing her wandering about the apartment hallway several times appearing confused during the period her eye sight was acutely worsening.

Due to Stargardt's disease, the patient had poor eye sight from birth, but was able to drive. Five months prior to admission, her eye sight began to worsen and she was considered legally blind. Her loss of eye sight accelerated two weeks prior to admission, making all figures appear as splotches of color unless they were extremely close to her face. She waited five months to present due to fear of being labeled "crazy." First degree family history included Schizophrenia and Alzheimer's disease with subsequent development of delirium, although she had no Axis I diagnosis or history suspicious for undiagnosed psychotic disorder. On exam, she was noted to be actively hallucinating while demonstrating clear sensorium. Neurologic exam was significant for brisk reflexes in the upper extremities, absent reflexes in the lower extremities, and phantom pain with palpation of her distal left pointer finger. Folstein mini mental status exam was 22/27 with points off for serial sevens. Head CT and MRI were read by radiology as being normal for age. EEG and delirium work up were also found to be non-contributory. Also of note, the patient was placed on quietapine 150mg by neurology, which was ineffective for her hallucinations.
This case illustrates features suggestive of CBS to include hallucination responsiveness to command, normal diagnostic work up, clear sensorium during hallucination, and relative difficulty in controlling symptoms with neuroleptics. The psychiatric consult team's main intervention was providing education and normalization.

Poster No. 1-95

THINKING OUTSIDE THE BOX: A SIMPLE BEHAVIORAL INTERVENTION FOR AN UNUSUAL CASE OF TRICHOTILLOMANIA

Lead Author: M. Pilar Trelles-Thorne, M.D.
Co-Author(s): Katerina Fineti, MD, Rashi Aggarwal, MD

SUMMARY:

Introduction: Trichotillomania, an impulse control disorder, is a condition characterized by hair-pulling behavior. It can be accompanied by trichophagia, which in severe cases leads to formation of a trichobezoar and social and functional impairment. Trichotillomania has been found to affect as much as 4% of the population. Therapeutic interventions have proven to be limited. Cases of successful treatment with SSRI's, antipsychotics and mood stabilizers have been reported in the literature. Behavioral interventions appear to have a higher rate of remission. We present a case of trichotillomania involving pulling and eating hair from a synthetic wig, where a simple behavioral intervention dramatically improved the symptoms.
Methods and results: 41 year-old woman with a history of alopecia secondary to a chemical burn at age 13 presented to the emergency room with symptoms consistent with small bowel obstruction. She also had a history of trichotillomania and trichopagia involving hair from her wigs. A large trichobezoar, weighting 500gms, was extracted in the operating room. She was found to have co-morbid mayor depressive disorder. She was emaciated (BMI 16.5). Her post-operative recovery was complicated by multiple electrolyte deficiencies, related to chronic undernourishment, which led to a prolonged QTc of 550ms. She remained in the medical floor for one month, which allowed for daily visits by the psychiatry consultation liaison team. Her illness had produced significant functional impairment and social isolation. In consultation with the cardiology team and under cardiac monitoring, treatment with Sertraline 25mg PO daily was started. Her QTc prolonged to 650ms in the second day of treatment. Another trial with Aripiprazole 5mg PO daily caused QTc prolongation to 680ms in the third day of treatment. Behavioral approach was chosen instead. Patient wasn't able to identify anxiety prior or following hair pulling and eating behavior. She explained, on the contrary, felt relieved when in company of others, as she couldn't engage in the detrimental behavior. By actively engaging her family in treatment a plan to remove all wigs from patient was made. Family and patient participated in selecting alternatives to wigs for covering her alopecia. Patient started using colorful scarves. Six months after intervention patient remains asymptomatic. Her weight and affective symptoms had improved considerably as well.
Conclusions: This patient suffered from serious and debilitating consequences of trichotillomania. Her prognosis was worsened by multiple medical complications. However, one simple intervention- removal of wigs- led to recovery for this patient. As treatments are limited, treating psychiatrists have to think outside the box. The specific treatment that worked for our patient can't be recommended for everyone, but this case illustrates how in some instances a simple intervention can go a long way for a patient.

Poster No. 1-96

THROUGH THE LOOKING GLASS: A JOURNEY INTO THE MIND OF A PHYSICIAN PATIENT: SPECIAL CONSIDERATIONS IN CARE

Lead Author: Sherrell Lam, M.D.
Co-Author(s): Gregory Dadekian, MD

SUMMARY:

Introduction: Caring for fellow physicians presents a unique challenge. Physicians may delay care due to denial of illness, fear of appearing weak, and putting the needs of patients before their own. Treating physicians may have greater expectations for the physician patient. The following is my own experience as a hospitalized patient as I navigated the medical system from diagnosis to treatment.
Case: A previously healthy dual internal medicine/psychiatry resident presented with vertigo and ataxia, and was subsequently diagnosed with a cerebellar stroke due to an atrial myxoma. From initial delay in seeking care due to denial of illness, to being prioritized for procedures, to preconceptions regarding medical knowledge, this resident's experiences highlight issues physicians need to be aware of when caring for physician patients.
Discussion: The care of patients involves individualized treatments specific to illness, but includes multiple other factors including personal wishes, spiritual leanings and access to care. When the patient is also a physician, this brings further complications to the usual treatment algorithm. Physicians cope with their own illnesses through the use of avoidance and underestimation while their treating physicians anticipate better understanding of the medical process. Being mindful of these differences allows for better care of the physician patient.

Poster No. 1-97

TINNITUS SOUND GENERATORS FOR HOMICIDAL AND SUICIDAL COMMAND AUDITORY HALLUCINATIONS IN A SOLDIER WITH TREATMENT RESISTANT SCHIZOAFFECTIVE DISORDER

Lead Author: Rohul Amin, M.D.
Co-Author(s): Candice E. Ortiz AuD, Karen Parisien MD

SUMMARY:

Introduction: Auditory hallucinations (Ahs) are a common symptom of psychotic disorders which often present unique challenges. Hallucinations are often refractory to treatment with twenty-five percent of patients continuing to experience these despite adequate treatment. Command hallucinations with homicidal or suicidal content create particularly difficult and dangerous cases. Here, we describe our experience with the use of bilateral Tinnitus Sound Generators (TSGs) for augmentation in treatment resistant AHs.
Case: 31 year-old Black female, US Army Soldier, diagnosed with schizoaffective disorder, bipolar type five years prior who had been on multiple antipsychotics with intense egodystonic command suicidal and homicidal AHs resulting in numerous prolonged hospitalizations and significant psychological distress. The patient had been trialed on clozapine but was

discontinued due to non-adherence and transitioned to depot injection formulation. Transcranial magnetic stimulation (rTMS) had been attempted without success. Patient had been using music to help in suppression of the voices. Given this subjective improvement with music, bilateral TSGs were prescribed. She subjectively reported a 30% reduction in the intensity of hallucinations and reported high satisfaction, recommending it for others. Data from the device showed an average of 14 hours of daily use. The patient reported improvement of concentration with device use and was able to read, something she had not done for many years. Functional review showed significant improvement with successful behavioral activation with previously nil exercise to daily hourly walks, 22lbs weight-loss with adjunct metformin, and successful transition from the US Army to group home. Her Auditory Hallucinations Rating Scale (40) and PHQ-9 (24) scores did not change at follow-up and the patient required one seven-day hospitalization during this period. At 3 month follow-up, she continues to use her devices and currently applying for jobs through vocational programs.
Discussion: There are two reports of resolution of treatment resistant AHs in patients with schizoaffective disorders at one month follow-up, maintained at 17 and 31 months. This case demonstrates a 30% reduction in intensity without changes in frequency. The contribution of TSG in her significant functional gains is unclear given other interventions such as switch to depot antipsychotic injections. However, this case illustrates TSGs are easily tolerated even among our patient with history of non-adherence to treatment in the past.
Conclusion: TSGs have been shown to be effective in treatment resistant AHs in case reports. This patient had partial response with great tolerability and satisfaction with the intervention. Given the benign nature of these devices, it presents an opportunity for future research to further elucidate their efficacy in treatment of AHs.

Poster No. 1-98
TOPIRAMATE IN TREATMENT-REFRACTORY AGGRESSION IN CHILDREN WITH AUTISM: CASE REPORT AND REVIEW OF LITERATURE
Lead Author: Nivedita Nadkarni, M.B.B.S.
Co-Author(s): Vishal Madaan, MD
SUMMARY:
Objectives: At the end of this poster session, participants will be able to:
1) Understand various pharmacotherapeutic approaches to control irritability and aggression in children with autism.
2) Appreciate the effectiveness of Topiramate in treating aggression refractory to first-line options.
Abstract: Autism is characterized by the presence of impaired reciprocal social interaction, aberrant language development or communication skills and repetitive, stereotyped behavior, interests or activities, before 3 years of age. We describe the case of a 10-year-old non-verbal female, diagnosed with autism at age 2 &1/2 years, and referred to our outpatient clinic for management of significant aggression, hyperactivity, and self-injurious behaviors. Her hyperactivity symptoms responded significantly to stimulants but her aggressiveness and self-injurious behaviors showed no improvement. She was initially tried on risperidone and then, aripiprazole, both of which are approved by the Food and Drug Administration (FDA) for treating irritability and aggression in autism. Both risperidone and aripiprazole helped somewhat in managing these behaviors, but caused significant weight gain along with a selective increase in aggression related to obtaining more food, sometimes even from the trash. After another couple of failed pharmacological trials, and after obtaining informed consent regarding off-label use, she was started on Topiramate. She tolerated it very well and did not have any adverse effects. Topiramate was extremely efficacious and significantly decreased her aggression and biting behaviors. It also helped with anxiety and improved behavior at school as well. Atypical antipsychotics, especially risperidone and aripiprazole, continue to be the most studied and beneficial medications for treating irritability and aggression in children with autism. However, their use is often limited due to frequent adverse effects such as increased appetite, weight gain, metabolic changes and extrapyramidal symptoms. As a result, clinicians and researchers continue to search for alternatives that may be better tolerated for treating aggression in autism, and one option that appears useful is Topiramate. While there are no published double-blind placebo-controlled studies of topiramate monotherapy in autism, randomized studies have highlighted its adjunctive use with risperidone. Open-label studies and anecdotal experience have indicated efficacy for topiramate in managing aggression in autism, both as monotherapy and as an adjunct, and further research is needed to understand whether this is a viable option for managing this specific population.

Poster No. 1-99 **WITHDRAWN**

Poster No. 1-100
VARIABLES INFLUENCING TREATMENT ADHERENCE IN PATIENTS WITH ALZHEIMER'S DISEASE
Lead Author: Hyun-Chul Youn, M.D.
Co-Author(s): Jaewon Yang, M.D., Ph.D., Moon-Soo Lee, M.D., Ph.D., In-Kwa Jung, M.D., Ph.D., Sook-Haeng Joe, M.D., Ph.D., Changsu Han, M.D., Ph.D., Seung-Hyun Kim, M.D., Ph.D.
SUMMARY:
This study's primary aim was to assess the medication adherence of Alzheimer's patients using Medication Event Monitoring System (MEMS). The secondary aim of the study was to analyze the relationships between adherence and other clinical parameters. In a four-week period, 33 outpatients over 65 years old who were diagnosed with Alzheimer's disease were monitored. The percentage of doses taken on schedule was used to assess MEMS adherence. Medication adherence was also assessed by using pill count, clinician rating scale, and patients self-report. Agreements among adherence measures and the relationships between adherence and other clinical factors were assessed. The rates of adherence group were as follows: MEMS 51.5%, pill count 82.8%, clinician rating scale 82.8%, and self-report 87.9%. The Kappa coefficients were 0.382 (pill count vs. MEMS), 0.382 (clinician rating scale vs. MEMS) and 0.256 (self-report vs. MEMS). The rates of adherence group for MEMS were higher in men than women. Except for gender difference, no variables were correlated with adherence variables. Adherence measured by pill count, clinician rating scale, and patient self-report showed discrepancy with MEMS adherence in patients with Alzheimer's disease. In this study, no variables except gender difference were correlated with adherence, due to caregiver's help.

Poster No. 1-101
WHAT DO CLINICIANS NEED TO KNOW ABOUT BULLYING?
Lead Author: Shaneel Shah, M.D.
SUMMARY:
Bullying is a widely prevalent phenomenon with unfortunate and long-lasting consequences, both for bullies and bullied. Even though bullying is reported to occur with both children and adults and in different social settings, majority of research so far has focused on studying bullying in schools. Olweus defines bullying or victimization as "when a student is exposed, repeatedly and over time, to negative actions on the part of one or more students." In the United States, bullying is a significant problem in schools affecting one in three children. Certain questions inevitably arise while contemplating on bullying: Who are these bullies? Who are the bullied? Are there different types of bullies and victims? Can a person be both a bully and bullied at the same time? And finally, what we, as clinicians, can do to

help these children in our consulting rooms? Over last thirty years, extensive research has been done in this area; I discuss the findings here. My aim is twofold: to review the research on the subject and summarize the findings, and in doing so, to provide a platform for discussion and deliberation.

Poster No. 1-102

WHEN PSYCHIATRIC SYMPTOMS ARE NOT CAUSED BY PSYCHIATRIC ILLNESS: A CASE OF CREUTZFELD-JACOB DISEASE (CJD) MASQUERADING AS MDD WITH PSYCHOTIC FEATURES

Lead Author: LaShire Diegue, M.D.
Co-Author(s): Rashi Aggarwal M.D.

SUMMARY: Introduction: Most inpatient psychiatric units have protocols that include medical clearance prior to admission to psychiatry. However, missed medical causes of psychiatric symptoms still persist. One study reviewed 64 such cases that were erroneously admitted to psychiatric units. Another study showed that 9.1% of their psychiatric outpatients had psychiatric symptoms that were produced by medical disorders. The most common psychiatric symptoms were depression, confusion and anxiety as well as speech or memory disorders.
Case: We report of a 42 year old Ecuadorian woman who had been diagnosed with Major Depressive Disorder (MDD) 3 weeks prior to presentation and was started on Sertraline 25mg po daily by a primary care physician. Patient presented with symptoms consistent with MDD with psychotic features. Initial laboratory tests, including a complete blood count were within normal limits. Patient was admitted to the inpatient psychiatric unit and treated with Sertraline and Haloperidol. A CT Head was ordered to rule out organic etiology of symptoms and showed a possible hemangioma. A follow up MRI was unremarkable. On day 16 of patient's hospitalization, patient became mute, stopped eating and would stand in one place for hours. Patient was treated for catatonia with Lorazepam. Due to observed confusion and fall, CT Head and MRI were repeated. CT Head was unremarkable but MRI showed increased diffusion and FLAIR signaling in both caudate heads, putamen and left frontal lobe from previous MRI. EEG was ordered and patient was found to be in status epilepticus. Patient was transferred to the intensive care unit and place in a pentobarbital coma to stop seizure activity. Initial lumbar punture (LP) was negative for syphyllis, strep pneumoniae, and cryptococcus. Repeat LP results found ANA was 1:320 titer but HSV, JC, anti-dsDNA, AFB, and ANCA were all negative. Neurosurgery was consulted for a possible brain biopsy but declined. 14-3-3 protein was later found to be positive as well as the ELISA tau protein assay which was found to be 16543 pg/ml where the cutoff is 1200 pg/ml. This finding is consistent with probable CJD. Patient died 49 days after admission.
Discussion: The initial presentation of CJD can be quite variable but often includes a psychiatric presention and about 80% of patients will develop psychiatric symptoms during the course of the illness. In fact 10% of CJD cases are admitted to psychiatric units. Although there are characteristic EEG findings in CJD (periodic triphasic sharp waves), up to 60% of patients will not present with these EEG findings. Although there is no cure for CJD, the attention given to the possibility of an organic etiology for patient's atypical presentation, led to the correct diagnosis. Had the illness been treatable, the diagnosis could have meant the difference between life and death.

Poster No. 1-103

ZOLPIDEM-INDUCED GALACTORRHEA VIA GABAERGIC INHIBITION OF DOPAMINE: A CASE REPORT

Lead Author: Daniella De Jesus, B.S.
Co-Author(s): Adekola Alao, MD,

SUMMARY:
Introduction: Insomnia, which can be defined as difficulty in falling and/or remaining asleep or simply reduced quality of sleep, can be secondary to a physical or psychiatric condition. The prevalence of insomnia has been estimated to be as high as 32 to 33% of the population. Non-benzodiazepines such as zolpidem have become more commonly used due to their more favorable adverse effect profile. In this report, we will describe a case of zolpidem-induced galactorrhea. We will also explore the mechanism leading to galactorrhea in this patient.
Case report: The patient is a 29-year-old woman with a history of post traumatic stress disorder (PTSD) as well as alcohol abuse in sustained remission who presented with PTSD associated insomnia. She was started on zolpidem 5 mg po qhs. Two months after the initiation of zolpidem treatment, the patient presented with breast tenderness and galactorrhea. Zolpidem was discontinued and the galactorrhea resolved after two weeks. A serum prolactin level was drawn shortly after discontinuation of zolpidem and was measured to be 15.67 mg/ml.
Discussion: Zolpidem has a high affinity and is a full agonist at the ?1 containing GABAA receptors, with reduced affinity for those containing the ?2- and ?3- GABAA receptor subunits and minimal affinity for ?5 receptor subunit. Due to its selective binding, zolpidem has been found to have very weak anxiolytic, muscle relaxing and anticonvulsant properties while having very strong hypnotic properties. Psychotropic drugs have been well recognized to produce hyperprolactinemia. However, there has been no reported case of zolpidem-induced hyperprolactinemia. Specifically, zolpidem has been noted to activate GABAergic neurons within the ventral tegmental area (VTA), where there is a sizable population of GABAergic neurons. These GABAergic neurons regulate the firing of dopaminergic counterparts, also located in the VTA, which send projections throughout the brain. This inhibition results in a decrease in the dopaminergic inhibitory influence on prolactin and an increase in prolactin releasing factors which act on the anterior pituitary, leading to hyperprolactinemia and thus galactorrhea.
Conclusion: Pharmacologically induced hyperprolactinemia may be a problem of underestimated prevalence due to the lack of externally visible symptoms as well potential shame associated with reporting of symptoms. However, more research is needed in this area to definitively associate zolpidem with hyperprolactinemia and its related symptoms.

Poster No. 1-104

ZOOPHILIA AND FETAL ALCOHOL SYNDROME IN AN ADOLESCENT: IS THERE A CONNECTION?

Lead Author: Richard Chung, M.D.
Co-Author(s): Gaurav Jain, MD, Pamela Campbell, MD, Sandra Vicari, PhD

SUMMARY:
Zoophilia or bestiality is a paraphilia that is rarely encountered in a clinical setting. Fetal alcohol syndrome has been associated with various behavioral disturbances, but there is a paucity of literature about its association with paraphilia in adolescence. A sixteen year old adolescent male, with a history of fetal alcohol syndrome and sexual abuse, was hospitalized because of worsening anger and impulsivity. The patient was engaging in sexual acts with pets and was putting foreign objects such as a toothbrush into his rectum. This behavior started six months prior with intense obsessional thoughts that were relieved by engaging in these acts. His laboratory tests were normal. On an IQ test he scored seventy eight and his working memory was in the mild mental retardation range. Psychological testing showed high impulsivity and hyperactivity. The literature shows an

association of fetal alcohol syndrome with decrease in the size of corpus callosum, reduced volume of basal ganglia and cerebellum. These lead to persistent impairments in response inhibition, memory, and executive functions. Deficits in response inhibition imply limitations in the capacity for self control. Scanty literature points toward higher prevalence of inappropriate sexual behavior. We postulate that his history of sexual abuse superimposed on the brain damage caused by alcohol could explain his unusual behavior. Learning self-control is central to treatment which may be enhanced by both individualized therapy and medications. However, memory deficits may limit one's capacity to participate in therapy and learn adaptive behavior. The patient was treated with fluoxetine and aripiprazole along with behavioral and cognitive psychotherapy. The patient responded to treatment and he felt his paraphilic urges and obsessional thoughts were better controlled.

Poster No. 1-105

HOW BODY IMAGE CAN IMPACT RAPPORT, COMPLIANCE, AND FOLLOW UP IN PATIENTS FROM ADOLESCENCE TO ADULTHOOD

Lead Author: Michael Bolton, M.D.

SUMMARY:

INTRODUCTION: The study of body image in the literature of eating disorders and plastic surgery suggests that body image is a measurable concept with psychological implications. Furthermore, the awareness that body image influences motivation and behavior, and perhaps quality of life, is well documented in the literature. The following cases will illustrate the point that body image is a central concern to a variety of patients from different age groups and with different diagnoses. By addressing this concern, body image may provide a means to improving rapport, compliance and follow-up that has been previously overlooked, and important to the care of the psychiatric patient.

METHODS: A concurrent search of the most common search engines (including PubMed, Medline, Ovid, PsychInfo, and others) using the terms "body image" and "rapport" yielded no relevant results; the terms "body image" and "compliance" yielded two relevant studies; the terms "body image" and "follow-up" yielded no relevant studies.

CASE REPORTS: This report presents four patients who were seen from a variety of experiences, including an adolescent residential center, an outpatient experience, and an inpatient experience. These cases range in age from 16 to 72, and illustrate the importance and the diversity of issues with body image to these patients. In every case, the body image concerns were central to the patients' psychiatric complaints, and their body image concerns had not previously been addressed. In addition, the body image concerns in these patients contributed to isolation, avoidance of reflections in mirrors, poor rapport and therapeutic alliance with previous treaters, poor compliance with medication and therapy regimens with previous treaters, and poor follow-up with previous treaters. Body image concerns included dissatisfaction with scars, body contour, body stature, and physical deformity resulting from swelling. When the body image concerns of these patients were addressed through a series of questions, the patients reported feeling "understood", which resulted in improved therapeutic alliance, compliance, and follow-up. Sample questions include: "if every other problem in your life was solved except for how you look, would you be happy?"; or "if you could change one thing about your life what would it be", and "have you ever changed what you were planning to do based on the desire to not have people see you in public?"

DISCUSSION: The lack of literature regarding the impact of body image on rapport, therapeutic alliance, compliance with medications, therapy, and follow-up stems from many sources, including lack of awareness of the problem, lack of specific body image measures, and a lack of a concise set of questions for clinicians. A set of clinically relevant questions is presented that addresses this gap, the role of body image in improving patient experience is suggested, and improvement of certain critical psychiatric outcomes is demonstrated.

POSTER SESSION 2
RESIDENT/MEDICAL STUDENT POSTER COMPETITION

Poster No. 2-1

A COMPARISON OF PERSONALITY CHARACTERISTICS AND PSYCHIATRIC SYMPTOMS BETWEEN UPPER AIRWAY RESISTANCE SYNDROME AND OBSTRUCTIVE SLEEP APNEA SYNDROME

Lead Author: Soo Jung So, M.D.
Co-Author(s): Heon-Jeong Lee, Seung-Gul Kang, Ho-Kyoung Yoon, Ki-Young Jung, Ki-Nam Bok, Hee-Jung Yang, Leen Kim

SUMMARY:
Objectives: Patients with upper airway resistance syndrome (UARS) complain more frequently of chronic insomnia, daytime sleepiness or fatigue, and multiple somatic symptoms than patients with obstructive sleep apnea syndrome (OSAS), even though respiratory abnormality is more severe in OSAS patients than in UARS patients. However, a psychiatric investigation into these differences has not been previously performed. Here, we investigate whether personality characteristics of patients with UARS differs from that of patients with OSAS.
Methods: In total, 837 patients referred from the Sleep Disorder Clinic of Korea University Anam Hospital were recruited for this study. All patients had diagnostic polysomnography (PSG) and completed the Epworth Sleepiness Scale (ESS), the Athens Insomnia Scale (AIS), the Pittsburgh Sleep Quality Index (PSQI), the Symptom Checklist-90-Revision (SCL-90-R), and the Eysenck Personality Questionnaire (EPQ). Patients were divided into 2 diagnostic groups, UARS or OSAS, based on the PSG and ESS.
Results: UARS Patients in the UARS group all scored significantly higher than patients in the OSAS group on the ESS, the AIS, and the PSQI; The scores of all SCL-90-R subscales for the UARS group were significantly higher than those of the OSAS group. Patients with UARS scored lower on the EPQ-E (Extroversion/introversion) and the EPQ-L (Lie) than those with OSAS. UARS patients also exhibited higher scores on the EPQ-P (Psychoticism) and the EPQ-N (Neuroticism) than OSAS patients.
Conclusion: Our results suggest that patients with UARS have a neurotic personality and tend to be more anxious and sensitive than patients with OSAS. This study also confirms that UARS patients perceive the quality of their sleep as being worse than individuals with OSAS.

Poster No. 2-2

A SOLDIER'S BATTLE FOR AUTONOMY

Lead Author: Christine Winter, D.O.
Co-Author(s): Harold Wain, Ph.D.

SUMMARY:
Introduction: Medical decision making consults from medical and surgical teams are a common occurrence for psychiatry residents when serving on a consultation and liaison service. This requires the primary team to present an understandable picture of the illness and the available treatment options to all parties involved. The patient's then make their decision based on the information at hand. At times this is a difficult decision on personal, ethical and medical levels. The role of the consultant psychiatrist is to remain neutral, assist in the understanding of the information and to facilitate communication between the patient, the patient's family, and the primary team with the overarching goal of patient autonomy.
Background: Psychiatrists are frequently consulted for capacity evaluations in cases where a patient has had an abrupt alteration in their mental status and their ability to exercise their autonomy is questioned based on decisions that may be deleterious to their health. When a patient demonstrates understanding of their medical condition, treatment options, and the consequences of their decisions, they are considered to have medical decision-making capacity. At times, patient's autonomous decisions may collide with the primary team's or family's agendas and impacts the dynamics of all involved in the care. Here we illustrate some common challenges with these evaluations especially when these cases involve young soldiers with severe combat related polytraumatic injuries.
Case: The patient is a 23 year-old white male, US Army soldier, with polytraumatic injuries resulting in severe complications requiring a series of amputations leading to bilateral hemipelvectomy. Due to life-threatening infection, he was recommended for hemicorpectomy. Psychiatric consultation was obtained after the soldier declined any further invasive treatments with the primary team's concern for depression and possible suicidality. The patient was determined to have full medical capacity and the support of his family for his decision despite the possibility of his demise. In this case the patient's decision had a positive outcome and several months later he continues to thrive.
Discussion: Some of the most common and difficult ethical issues to navigate arise when the patient's autonomous decision conflicts with the physician's beneficent duty to ensure the patient's best interests. Discussions have been fueled by medical ethics boards and patient rights advocates that continuously work to safeguard patient autonomy despite predicted untoward outcomes.
Conclusion: Every patient has the inherent right to autonomy within the American health care system while physicians have taken an oath to "do no harm" and will seek out a best possible outcome. The consultant psychiatrist will need to act as a patient advocate to ensure the medical treatment provided is based on sound decisions and maintains the patient's autonomy.

Poster No. 2-3

A SURVEY OF PSYCHIATRY TRAINEES' ANTIDEPRESSANT PRESCRIBING PRACTICES

Lead Author: Michael Brus, M.D.
Co-Author(s): Iosifescu DV, Simon A

SUMMARY:
Introduction: Since the advent of selective serotonin reuptake inhibitors (SSRIs) in the late 1980s, the use of tricyclic antidepressants (TCAs) and monoamine oxidase inhibitors (MAOIs) has declined. Although there are sound clinical reasons for this shift in prescribing practices, we hypothesized that psychiatry residents may graduate without adequate experience in prescribing TCAs and MAOIs. We wanted to determine the extent of TCA and MAOI prescribing among U.S. psychiatric residents.
Methods: We emailed the listserve of U.S. psychiatric residency training directors requesting them to distribute an online survey to their residents and fellows. The survey asked how often the trainee had prescribed one of the following four categories of antidepressants to patients with treatment-resistant depression (TRD) since the start of residency: 1) SSRIs, SNRIs, bupropion, or mirtazapine, 2) second-generation antipsychotics, 3) TCAs, and 4) MAOIs. Respondents chose one of five categorical answers (0%, 1-10%, 11-50%, 51-80%, 81-100%) for each antidepressant category and provided demographic data.
Results: Surveys were distributed at 24 programs, totaling 505 residents and fellows. 216 (42.8%) responded. The respondents represent a diverse population of U.S. psychiatric residents in terms of geographic region (55% from the East Coast, 34% between coasts, 12% West Coast), gender (55% female), and year of training (25% PGY1, 24% PGY2, 24% PGY3, 27% PGY4 or fellows). 73% of respondents had never prescribed an MAOI, and 26% had prescribed them to 10% or fewer of TRD patients. 44% of respondents had never prescribed a TCA, and 44% had prescribed them to 10% or fewer of TRD patients. In contrast, 55% of respondents had prescribed an SSRI/SNRI/bupropion/mirtazapine to more than 50% of their TRD patients,

and 61% of respondents had prescribed second-generation antipsychotics to more than 10% of their TRD patients. The differences in prescribing patterns among the four antidepressant categories were statistically significant (Pearson chi2(12) = 621.2 , p<0.001).
Discussion: These data suggest that the majority of U.S. psychiatric residents and fellows have no experience prescribing MAOIs and minimal experience prescribing TCAs. Given the efficacy of these medications in TRD, psychiatry trainees would benefit from increased emphasis on these antidepressant classes in their didactics and clinical supervision.

Poster No. 2-4

ABDOMINAL MYOCLONUS CONFUSED WITH PSYCHOGENIC NON-EPILEPTIC SEIZURES.

Lead Author: Swamy Suresh Sabbenahalli, M.D.
Co-Author(s): Mary Jo Fitz-Gerald MD., Kyle Walker IV, MS

SUMMARY:
This case report reviews the encounter of a female patient who was admitted to the Neurology service for evaluation of seizure-like activity. Psychiatry was consulted for suspected psychogenic non epileptic seizures (Psedoseizures). After complete psychiatric evaluation the patient was referred back to Neurology with high suspicion of abdominal myoclonus. The writers review forms of myoclonus and discuss of the necessity for a full and thorough examination to rule out psychogenic non epileptic seizures.
Case Report: 46 year old African American female with no significant past medical or psychiatric history was admitted to the Neurology service for evaluation of seizure-like activity. Patient reported abdominal and thigh movements and shaking episodes. Prior to admission, patient had multiple neurologic evaluations at three different institutions. She also had video monitoring EEG during which she had no recorded episodes. Upon this admission, the psychiatry service was consulted for evaluation for Pseudo seizures. During Psychiatric evaluation, patient reported that her symptoms of "abdominal shakes" started 3 months prior to admission. Symptoms initially responded to diazepam but subsequently became worse after one month of treatment. Patient was able to actively converse during spells. Patient was not determined to have any primary psychiatric illness, and complete psychiatric work up failed to convince the team of a diagnosis of psychogenic non epileptic seizures. Psychiatry team became concerned about segmental Myoclonus and discussed this possibility with the Neurology team. Upon re-examination by the neurology service, the patient was diagnosed with abdominal myoclonus.
Conclusion: Segmental Myoclonus, and other neurological conditions, can easily be mistaken or missed, especially when there is a high index of suspicion for psychiatric illness. Furthermore, due to the broad diversity in presentation of psychogenic non epileptic seizures this diagnosis is often confused with neurological conditions.
Some factors important in making an accurate diagnosis are inadequate history, co-occurrence of psychogenic non epileptic seizures and epilepsy, poor physician – patient rapport and failure to rely on clinical observation of the event. Complete Psychiatric evaluation is more important than any other single diagnostic test.

Poster No. 2-5

ACUTE, ATYPICAL PSYCHOSIS SUGGESTIVE OF TEMPORAL LOBE EPILEPSY FOLLOWING SINGLE DOSE OF EPINEPHRINE, DIPHENHYDRAMINE, AND PREDNISONE

Lead Author: Roberto Castanos, M.D.
Co-Author(s): Michael G Frazier, MD, Rupak Datta, MSIII, Lawrence R. Faziola, MD

SUMMARY:
While there are reports of steroid-induced psychosis in the literature, this is the first case of an atypical presentation of psychosis following administration of a single dose of steroid and antihistamine. Here, we present a 64 year old woman with an unclear history of depression, who was treated emergently with subcutaneous epinephrine and oral prednisone and diphenhydramine for near occlusive tongue swelling. She was brought back to the emergency department within 24 hours of treatment with sudden onset confusion, staring spells, bizarre behavior, and auditory and visual hallucinations that were atypical in taking the form of multiple discrete episodes lasting from a few minutes to an hour with near full resolution between episodes and without memory of the psychotic experiences. These episodes began with mild confusion 1 hour post-dose, worsening over 12 hours after administration of the medications with to episodic confusion then escalating rapidly to psychosis. The episodic nature, memory lapses, and near resolution of symptoms between these events suggested an organic etiology, and temporal lobe seizures were suspected; however, brain imaging and EEG did not reveal an abnormality. She was treated symptomatically with low doses of anti-psychotic medications and had complete resolution of symptoms within 48 hours of her allergy treatment. With no other causative factor identified and the temporal association, the most likely diagnosis is acute steroid-induced psychosis.

Poster No. 2-6

ALGORITHM FOR PSYCHOTIC DEPRESSION MANAGEMENT FROM THE PSYCHOPHARMACOLOGY ALGORITHM PROJECT AT THE HARVARD SOUTH SHORE PROGRAM

Lead Author: Michael Tang, D.O., M.P.H.

SUMMARY:
This poster serves as the latest update of the algorithm for psychotic depression from the Psychopharmacology Algorithm Project at the Harvard South Shore Program. A literature review was conducted focusing on new data since the last published version (2008). The most effective treatment for hospitalized, severe psychotic depression patients is still electroconvulsive therapy (ECT). The combination of an antidepressant (tricyclic antidepressant [TCA], selective-serotonin reuptake inhibitor [SSRI], or serotonin-norepinephrine reuptake inhibitor [SNRI]) plus an antipsychotic also continues to be the preferred pharmacological modality when ECT is an unavailable/deferred option. Recent studies provided some evidence supporting using venlafaxine ER, an SNRI, as the first choice antidepressant. The algorithm continues to suggest trying atypical antipsychotics with more benign safety profiles (e.g. ziprasidone, aripiprazole) as the first choice antipsychotic, given similar efficacies shown with olanzapine and quetiapine. Data continue to support trying a different antidepressant with the antipsychotic if the first combination fails. After two failed trials

of combination therapy, the algorithm recommends augmentation management with lithium. Limited evidence also suggests clozapine or augmentation with methylphenidate as possible options. When combination therapy is deferred, evidence suggests monotherapy with a TCA as more effective when compared with SNRI or SSRI monotherapy. However, safety issues and possible increased risk of psychosis exacerbation must be noted when choosing TCA monotherapy. In this workshop, the three authors will present parts of the algorithm. One speaker will demonstrate how the recommendations can be accessed from our website using smart phones. Ample time will be provided for attendees to respond and interact with the presenters.

Poster No. 2-7

ALL E.A.R.S. (ENCOURAGING ACTIVE RECEPTION AND SELF-REFLECTION): A PATIENT-CENTERED MEDICAL STUDENT ORGANIZATION

Lead Author: Michelle Chi, B.S.
Co-Author(s): Jason Domogauer, BS, Thomas J. Krall, MD, Sheenal Patel, MD, Elizabeth Thottukadavil, MD

SUMMARY:
ALL EARS is a student-based organization within the New Jersey Medical School's Humanism Center that collaborates with the University Hospital palliative care team. Our students interact with patients who are often faced with extended hospital stays either for serious illness, chronic illness, and/or end-of-life treatment. Often times these patients face such extended hospitalizations without any friends, family, and/or other type of support system. Therefore, our students fill a recognized void of basic human interaction and support the patients on a more personal and emotional level. Through our visits we seek to develop a relationship with the patients, whereby they can share their feelings, needs, stories, and thoughts, hopefully leading to an improved state of overall well-being. Additionally, listening to patients' stories and offering support in the most difficult of times provides students with meaningful interactions with socially isolated patients, further reminding us of the humanism within medicine.

Poster No. 2-8

AN UNBALANCED TRANSLOCATION IN A PEDIGREE WITH AUTISM SPECTRUM DISORDER AND CEREBELLAR JUVENILE PILOCYTIC ASTROCYTOMA

Lead Author: Hassan M. Minhas, M.B.B.S., M.D.
Co-Author(s): Matthew F. Pescosolido, Matthew Schwede, Justyna Piasecka, John Gaitanis, Umadevi Tantravahi and Eric M. Morrow

SUMMARY:
We report a pedigree with a pair of brothers each with minor anomalies, developmental delay and autistic-symptoms who share an unbalanced translocation (not detectable by karyotype). The unbalanced translocation involves a 7.1 Mb loss of the terminal portion of 10q, and a 4.2Mb gain of 11q. One of the brothers also developed a cerebellar juvenile pilocytic astrocytoma. The father was found to be a balanced carrier and the couple had a previous miscarriage. We demonstrate that the breakpoint for the triplicated region from chromosome 11 is adjacent to two IgLON genes, namely Neurotrimin (NTM) and opioid binding/cell adhesion molecule-like (OPCML). These genes are highly similar neural cell adhesion molecules that have been implicated in synaptogenesis and oncogenesis respectively. Gene expression studies of these two genes in the developing and adult human brain suggest a role for these proteins in neurogenesis and synaptogenesis. The children also have a 10q deletion and are compared to other children with the 10q deletion syndrome which generally does not involve autism spectrum disorders or cancer. Together these data support a role for NTM and OPCML in developmental delay and potentially in cancer susceptibility.

Poster No. 2-9

APATHY REFRACTORY TO MEDICAL MANAGEMENT OF PRE-FRONTAL CORTICAL TUMOR PATIENTS: A CASE REPORT

Lead Author: Kiran Majeed, M.D.
Co-Author(s): Ali Bokhari, MD, Mona Syeda Masood, DO

SUMMARY:
Introduction: Incidents of psychiatric symptoms in patients with brain tumors, especially those that affect the prefrontal cortex are well documented in psychiatric and neurological literature. According to case reports studied by Bunevicius, et al, patients that suffer from frontal cortical tumors can consequently experience a range of emotional, behavioral and psychosocial pathologies including depression, anxiety, personality disorders, mania, psychosis and cognitive impairment.
Case Report: The case presented in this report is of a 67-year-old Caucasian male who presented with chronic unremitting depressive symptoms including depressed mood, sleep and appetite difficulties, and psychomotor retardation. The patient was treated with various antidepressants for his psychiatric symptoms with no significant improvement even after ECT trial. Routine diagnostic work up was non–contributory nor did the patient's neurological examination reveal any abnormality. During the hospitalization, further diagnostic neuroimaging was conducted and generalized brain atrophy along with a frontal lobe Meningioma was discovered.
Clinical Implication: The purpose of presenting such cases is to encourage broadening the differential diagnosis in psychiatric evaluation as well as to explore the increasing importance of the role of neuroanatomy and neuropathology as a significant contributor to psychiatric illness. As analyzed in this case, patients who have brain tumors may present with psychiatric symptoms without clinical neurological manifestations and present less responsive to treatment than those with an underlying psychiatric pathology. Thus, it is necessary for psychiatrists to be aware of this cause- effect relationship and be prepared for clinical outcome characterized by lack of dramatic improvement in mood and functioning in patients with co morbid frontal lobe tumors treated with antidepressants and ECT. An understanding of tumor location, size, and atypical psychiatric presentation is also important especially in an older population in achieving a correct diagnosis and management. Furthermore, this case makes an argument that though brain imaging is ordered often in initial psychiatric assessment especially in patients with first psychotic breaks, personality changes, those older than 50 years old, or with neurological indications, it may be in the clinician's and patient's best interest if it was ordered more routinely during intake of a broader range of psychiatric patients since delay in brain imaging might have a direct negative impact on diagnosis, treatment options and overall quality of life.

Poster No. 2-10

APPLYING PROGRESSIVE MUSCLE RELAXATION TO THE TREATMENT OF INSOMNIA IN THE INPATIENT SETTING

Lead Author: John Larimer Sneed, M.D.

SUMMARY:
Insomnia is a common finding in many psychiatric patients. It is often found that insomnia is worst in those that are most acutely sick. Thus, insomnia is a common finding in inpatient psychiatric patients. Weather it is a symptom of a larger disorder or a comorbid finding, poor sleep can have major deleterious effects on overall mental health and slow or even prevent therapeutic responses. To combat this, most inpatient hospitals offer medications such as diphenhydramine or trazodone on an as needed basis. While these medical interventions have helped treat insomnia, they are not without potential side effects. Behavioral interventions, including proper sleep hygiene, are often not addressed in the inpatient setting, much to the disservice of patients. Progressive muscle relaxation has been

used as a self-soothing exercise for the treatment of anxiety, but has also been observed to have a calming effect that is effective in insomnia, with little to no side effects. For our quality improvement project, we tested the hypothesis that progressive muscle relaxation played nightly on an inpatient psychiatric unit, would decrease the number of PRN medications given to patients. To do this we obtained an audio recording of a full progressive muscle relaxation session. At 9:30pm every night, we played the recording in the day area. Patients were allowed to join in on the exercise on a voluntary basis. The recording was played nightly for 3 weeks. These weeks were compared to the prior 3 weeks where no intervention was done. The results showed that playing the progressive muscle relaxation audio recording every night reduced the number of PRN insomnia medications taken when compared to previous weeks where no intervention was taken. These findings would suggest that progressive muscle relaxation is an effective tool in the treatment of insomnia and may help decrease the number of PRN insomnia medications given in the inpatient setting.

Poster No. 2-11

BEING ASSAULTED IS NOT A PART OF THE JOB: DEVELOPMENT OF PROCEDURES AND PROTOCOLS IN MAINTAINING SAFETY OF PSYCHIATRY RESIDENTS

Lead Author: Elliot R. Lee, M.D., Ph.D.
Co-Author(s): Jacob M. Behrens, MD, Claudia L. Reardon, MD, Arthur C. Walaszek, MD

SUMMARY:
Providing mental health care can be a rewarding career, but there are risks involved as well. Past studies have shown that psychiatrists have an elevated risk of threats and physical assault, with 40% of psychiatrists reporting assault during their careers. This risk begins in residency training, with estimates of physical assaults between 25-64% and threats approaching 90%. Unfortunately, after an attack, residents may feel they were partly to blame, and 30-40% do not report the attack. Of those who do, about 1/3 receive supportive counseling, which most view as inadequate. We present two cases of assault of residents in our residency at the University of Wisconsin, subsequent steps taken after the assault, and resident follow up. These cases demonstrated a lack of formalized protocol after a resident assault, and how these situations may go unreported. In response to cases such as these, the residency education committee at the University of Wisconsin has developed a detailed resident safety policy and procedures. The theme and title of these procedures is "Being assaulted is not a part of the job." Both the prevention of assault and helping with the aftermath of an assault are goals of the program. The procedures begin with resident education during post-graduate year one on nonviolent crisis intervention, taught by nursing staff. This is supplemented with verbal de-escalation training taught by police at the Madison VA Hospital. Didactics on emergency psychiatry provide further practical training in working with violent patients and in maintaining safety. In the case of an assault or violent attack against a resident, a formalized system is in place to notify the supervisor, program director, and hospital security. Residents will receive debriefing and after-services including working with the hospital employee and labor relations office. Both medical and mental health care will be provided to the resident as clinically indicated. Finally, the Department of Psychiatry quality improvement committee will review the case, possibly at monthly morbidity and mortality conferences. The authors of this abstract are surveying resident satisfaction with this new system, which anecdotally has been well-received thus far.

Poster No. 2-12

CAFFEINE WITHDRAWAL'S CLINICAL SIGNIFICANCE: IS PROPHYLACTIC TREATMENT WARRANTED?

Lead Author: Ali N. Canton, M.D.

SUMMARY:
Objectives:
1. Exploring the clinical significance of caffeine withdrawal and new diagnostic criteria proposed for DSM-V.
2. Exploring the use of prophylactic measures to prevent withdrawal.
The majority of the literature on caffeine includes the phrase "caffeine is the most commonly consumed stimulant in the world." A possibly more significant hypothesis is that caffeine withdrawal is the most common (untreated) withdrawal syndrome. In the United States, the number of adult users has increased (82% in 1977 to 90% in 1996) (1). More children are ingesting products containing caffeine. The market of caffeinated products has also exponentially grown in recent decades, especially in the realm of "energy" beverages/ foods/pharmaceuticals. As a result of caffeine's widespread use, there is an increased need to be able to recognize caffeine withdrawal as a possible primary cause or contributor of a patient's psychiatric presentation as well as possibly using prophylactic measures when necessary. Evidence to support the effects of decreasing caffeine use has been present for numerous years. The inclusion of the syndrome in DSM has been one of resistance due to speculation of clinical significance. According to DSM-III, one of the characteristics of clinical significance is that a syndrome causes impairment in one or more areas of functioning. Since the publication of DSM-IV-TR in 2000 where caffeine withdrawal was placed under Appendix B: Criteria Sets and Axes Provided for Further Study, there have been numerous studies demonstrating impairment. Also, a meta-analysis of caffeine withdrawal studies has resulted in the revision of the diagnostic criteria for caffeine withdrawal (2). Considering that caffeine withdrawal's clinical significance is being recognized, the use of preventative measures in psychiatric treatment might be warranted in order to reduce its effects on a patient's clinical presentation. If stimulant or other physiological effects of caffeine are deterrents in the utilization of caffeine supplementation then lower dosages can be used. It has been shown that 25 mg/day can prevent some withdrawal symptoms (4).

1. Frary CD, Johnson RK, Wang MQ. Food sources and intakes of caffeine in the diets of persons in the United Stares. JAm Diet AsIoe 2005;105: 110-113.
2. Juliano LM. Griffiths RR. A critical review of caffeine withdrawal: empirical validation of symptoms and signs, incidence, severity, and associated features. Psychopharmacowgy (Berlin) 2004;176:1-29.
3. Hampl KF. Schneider MC. Rutimann U. et al. Perioperative administration of caffeine tablets for prevention of postoperative headaches. Can Anaesth 1995;42:789-792.
4. Evans SM, Griffiths RR. Caffeine withdrawal: a parametric analysis of caffeine dosing conditions. Pharmacol Exp Ther 1999;289: 285-294.

Poster No. 2-13

CAN ARTIFICIAL INTELLIGENCE PARADIGMS REPLACE THE HUMAN EXPERT TO COMPILE AN EVIDENCE-BASED LITERATURE REVIEW?

Lead Author: Himanshu Tyagi, M.D.

SUMMARY:

AIM: In this study, artificial intelligence was applied to synthesise evidence based literature reviews on mental health topics based on the information freely available on internet.

BACKGROUND: Evidence based literature reviews in medical science are essential for making decisions at all levels in modern healthcare systems. However the exponential growth in the amount and accessibility of research data in past few years poses a significant challenge to the current process of the manual synthesis of evidence by experts. Limitations to this process e.g. slow production, low frequency of updates and a paucity of experts, are no longer considered acceptable in the fast changing information landscape of 21st century. However the manual process ensures accuracy and accountability, two features which are difficult to replicate with currently available technology. However this should not stop the use of technology to prove the concept.

METHOD: Five specific algorithms driven software tools were designed in PHP programming language. These were: DataCrawler (to crawl and index the content), API indexer (to harness Pubmed data via its official API), DataAnalyser (to analyse and create a relational matrix and run various statistical correlations and probability models), 'BrainOS' (for semantic analysis) and DataIntegrator (to integrate and present the data in the final form as a review). All algorithms and software were designed by the main author. Data was stored in a mysql database. The whole software was run on a Linux server with CentOS operating system.

RESULTS: The software was successful in producing rudimentary but comprehensive evidence based literature reviews. Although the software was able to structure the entire review with largely meaningful subheadings, its ability to create a coherent narrative was minimal. Synthesis of evidence was noted to be comprehensive but it largely reflected the trends in research which might not be applicable for clinical practice. The reviews were unable to highlight the gaps in current evidence, probably a reflection of the publication bias. It was surprisingly good at identifying articles not yet indexed in Pubmed or in other languages by analysing the references of currently indexed articles. Despite the complexity of the algorithm used, most of the reviews were generated within 2-3 milliseconds. The most important benefit appeared to be in referencing, which were comprehensive and preformatted in the required citation styles. This study provides a proof of concept that the process of generating evidence based literature reviews can be automated, although the limitations of currently published data and available technology means that its use can only be limited to provide an assistive function to the experts writing the reviews and therefore scaling their productivity.

Poster No. 2-14

CANNABIS AND DRUG-DRUG INTERACTIONS

Lead Author: Reetta Marja Marciano, M.D., M.S.N.

Co-Author(s): Sarah Gillman, MD, Sara Jeurling, MD, Sara Polley, MD, Veronika Stock, MD, Robert Schloesser, MD, Laura Seal, MD, Sunil Kushalani, MD, Christopher Welsh, MD, Devang Gandhi, MD, George Arana, MD, Neil Sandson, MD, Bernard Fischer, MD

SUMMARY:

Purpose: To examine the potential for cannabis and drug-drug interactions.

Background: Cannabis is one of the most widely abused drugs in the United States and is now legal to consume and prescribe in some states. It is unclear if enough data exists on drug safety to allow for responsible prescribing. Few studies address drug-drug interactions with cannabis. Some literature exists regarding the P450 microsomal enzyme and the glycoprotein pathway. This review mainly focuses on the potential drug-drug interactions within the P450 pathway.

Method: A PubMed search was conducted using the search terms: cannabis or THC and P450 enzyme, 2C9, 2D6, 3A4, and 2C9. After reviewing the resulting articles, the following terms were added to the search: delta 9-tetrahydrocannabinol, candesartan, irbesartan, losartan, fluoxetine, sertraline, chlorpromide, glimepiride, glyburide, tolbutamide, aceclofenac, diclofenac, ibuprofen,indomethacin, piroxicam, bosentan, dapsone, fluvastatin, mestranol,phenobarbital, phenytoin, tamoxifen, tetrahydrocannabinol, torsemide,S-Warfarin, CYP3A4, CYP4F2, CYP4F2, CYP4X1, CYP 2D6, P450 enzyme, and pain. Article limitations were English language, publication in the last 20 years, and location in peer reviewed journals. Both human and animal in-vitro studies were included.

Results: The initial search yielded 640 articles, 52 were accepted for review after relevance to drug metabolism pathways were determined. Fifty-two articles were reviewed by two reviewers and 12 were rejected, leaving 40. Cannabis compounds share many of the same metabolizing enzymes with antidepressants, antipsychotics, anti-anxiolytics, neoplastic agents, S-warfarin, inflammatory agents, and antimicrobials. Additional mechanisms of drug-drug interactions are the glycoprotein pathways.

Discussion: Cannabis and its many component substances interfere with the metabolism of prescription medications. The most well studied is its ability to inhibit activation of S-warfarin and anti-inflammatory drugs. Other mechanisms for drug-drug interaction include the P450 enzyme 2C9 along with CYP3A4, CYP4F2, CYP4F2, CYP4X1 and CYP 2D6 and glycoprotein mediated interactions.

Conclusion: Randomized, controlled trials are needed to examine the potential metabolic interactions between cannabis and other drugs and assess the clinical impact of these interactions.

Poster No. 2-15

COGNITIVE IMPAIRMENTS IN FIBROMYALGIA: A REAPPRAISAL

Lead Author: Malathi Pilla, M.D.

Co-Author(s): Trinadha Pilla, M.D., Chad Noggle, Ph.D.

SUMMARY:

INTRODUCTION: Fibromyalgia syndrome (FMS) is a common chronic musculoskeletal disorder characterized by the presence of widespread pain. Over the last two decades clinicians have been uncertain in understanding its pathophysiology and ambiguous in its diagnosis. It is one of the rheumatic illnesses with the greatest impact on patient quality of life, having negative consequences on physical capability, intellectual activity, emotional condition and mental health, to the extent where the patient requires multiple intervention strategies. Apart from chronic pain FMS is associated with fatigue, sleep disturbance, psychological distress and cognitive disturbance. Patients with FMS, complaint about "fogging" in diverse areas of their cognitive abilities. The term Fibro-fog has been used in literature to represent these cognitive disturbances. In literature these cognitive disturbances have been primarily reported as short-term memory loss. However, clinicians who encounter these patient's often times find cognitive deficits to be more widespread. To explore the apparent discrepancy in that which has been reported in the literature and which has been seen clinically, there is a need for further empirical evaluation. This study was undertaken to see if further areas of neurocognitive deficiency would be seen in patients with FMS by assessing their neuropsychological profiles.

METHODS: Various neurocognitive tasks were administered that contributed to outcomes across five broad domains. Participants included 20 patients diagnosed with fibromyalgia (97.1% females and 2.9% males) with a mean age of 47.06 years,

with a mean level of education of 13.23 years. Most participants were Caucasian (88.6%), followed by African-American (8.6%), and Hispanic (2.8%).
RESULTS: Multiple one-sample t-tests were run to compare the clinical sample to the normative mean across neurocognitive domains. An alpha level of .01 was used for comparisons following correction utilizing the Bonferroni method (.05/5). Results demonstrated that significant differences emerged on four of the five broad domains, including, attention, immediate memory, delayed memory, and visuospatial/visuoconstructional functioning. Only language was not significantly lower in participants with fibromyalgia.
SUMMARY & CONCLUSIONS: The findings in this study suggest compromise of neurocognitive functioning in FMS in multitude of domains then has been previously proposed. These deficits are seen without apparent physiological and/or neurological correlates. These findings may suggest additional features of FMS beyond pain symptoms, which may further explore the etiology of this confounding syndrome.

Poster No. 2-16

COMPARISON OF TIME SPENT ON MANAGEMENT OF PSYCHIATRIC EMERGENCIES IN TERTIARY CARE HOSPITALS WITH RESIDENCY TRAINING PROGRAM'S TEACHING CURRICULUM

Lead Author: Varinderjit S. Parmar, M.D.
Co-Author(s): Ewa Talikowska-Szymczak, MD, Peter Szymczak, MD, Erin Meiklejohn, Dianne Groll, PhD

SUMMARY:
INTRODUCTION: Psychiatric emergency rooms are critical to both the mental health system and the social service networks of many communities and serve unique and significant functions within the mental healthcare system. There is felt to be a gap concerning the amount of time spent in work activities of staff in Psychiatric emergency rooms, their interaction and their perceptions of their work. The literature is relatively sparse, with little systematic research on either service provision or areas of clinical teaching to medical students and residents.
OBJECTIVES: To determine the most predominant causes of psychiatric presentations to the emergency room in tertiary care settings. To determine and compare the number of hours spent by residents and staff on managing different emergency psychiatric presentations.To study important topics that need to be incorporated into core academic teaching curriculum in psychiatry residency programs based on emergency psychiatric presentations.
METHODS: Charts of all psychiatric emergency room patients from a five-year period, April 2006 to March 2011, were reviewed retrospectively. The collected data included patients' date and time of visits, number of hours spent by the residents and staff, gender, age and primary presenting diagnosis. Emergency room presentations were divided by ICD -10 criteria into 11 diagnostic clusters. Average time as well as total percentage of time spent by the staff and residents was studied in each cluster of diagnoses separately. Postgraduate university psychiatry residency teaching curriculum for the year 2010 and 2011 was studied and average time spent by residents in each cluster diagnoses topics was calculated. Time spent in emergency room managing different cluster of diagnoses was then compared with time spent in academic teaching by residents.
RESULTS: One-way ANOVA analysis revealed a significant difference in management time between the cluster groups. After dividing the diagnoses into clusters, we compared the percentage of total time spent on each diagnostic cluster in the ER to the percentage of total time that is spent on each diagnostic cluster in the psychiatric curriculum. From this analysis we could observe that there were large differences in the proportion of time that is spent on each of these types of diagnoses in the ER as compared to the curriculum.
CONCLUSION: Out of all patients presenting to the ER for psychiatric reasons, the largest two groups were patients diagnosed with Substance Related Disorders and Anxiety Disorders. The time spent on each patient by staff and residents in the ER was significantly higher for a patient presenting with diagnosis Delirium and Dementia. When comparing this particular program's teaching curriculum, we found that a greater amount of total time is spent in the ER on anxiety and and and substance use disorders as compared to the total amount of time these topics were presented in the teaching curriculum.

Poster No. 2-17

CORTICAL THICKNESS REDUCTION IN PATIENTS WITH FIRST-EPISODE MAJOR DEPRESSIVE DISORDER

Lead Author: Kyu-Man Han, M.D.
Co-Author(s): Byung-Joo Ham, M.D., Ph.D.

SUMMARY:
Objectives: Although there have been numerous brain imaging studies about major depressive disorder (MDD), the results are sometimes inconsistent. And few studies have focused on the structural brain alterations in first-episode MDD, excluding interference of multiple recurrent episodes of depression on the analysis for elucidating the brain regions associated with the development of MDD. Therefore, the aim of this study was to investigate structural alteration of brain in patients with first-episode MDD.
Methods: Subjects with first-episode MDD whose durations of illness are not exceeding 6 months (n=20) and age-, gender-, and handedness-matched healthy controls (n=20) were enrolled in this study. All subjects received T1-weighted structural magnetic resonance images (MRI) and neuropsychological assessment for MDD. We used an automated surface-based approach (FreeSurfer) to analyze difference of cortical thickness in acquired T1-weighted image between subjects with first-episode MDD and healthy controls. Linear regression analysis was used to analyze difference of cortical thickness, and the significance threshold for p-value was defined as less than 0.001. Monte Carlo simulation cluster analyses were performed for multiple comparisons correction.
Results: Subjects with first-episode MDD showed significantly thinner cortex in in pars opercularis (orbital part of inferior frontal gyrus, BA 44) than healthy controls on linear regression analysis after adjusting for gender and age (corrected $p<0.001$).
Conclusions: In this study, we found that patients with first-episode MDD, relative to healthy controls, had thinner cortical thickness in the pars opercularis region. And this finding highlights the potential important role of this region in development of MDD.

Poster No. 2-18

CYCLOSERINE-INDUCED DEPRESSION WITH PSYCHOTIC FEATURES: A CASE REPORT

Lead Author: Swati Dhankikar, M.D.
Co-Author(s): Robert J Olson, MD, James Roerig, PharmD

SUMMARY:
Cycloserine, also known as Seromycin is an anti-tubercular drug that acts by inhibiting bacterial cell wall synthesis by competing with amino acid (D-alanine) for incorporation into the bacterial cell wall. It is widely distributed to most body fluids and tissues including CSF, bile, sputum, lymph tissue, lungs, and ascitic, pleural, and synovial fluids. Known CNS side effects include depression, anxiety, psychosis and even severe suicidal ideation. We are reporting a case of 39 year old Iraqi male presenting with Major depressive disorder, single episode with psychotic features possibly secondary to cycloserine treatment. Patient is currently undergoing treatment for Supraclavicular and mediastinal MDR tuberculous lymphadenitis complicated with recurrent right neck abscess and breakthrough pulmonary disease. There have been reports of unmotivated and sudden

suicides in patients treated with Cycloserine for long periods. Our patient has been treated with cycloserine for the past 6 months before presentation. He started feeling depressed around a month after treatment but reported recurrent severe suicidal thoughts 5 months after the drug treatment.

Poster No. 2-19

DEMOGRAPHIC AND CLINICAL CORRELATES OF STANDARD VERSUS COMPLEX PHARMACOTHERAPY IN MEDICATED BIPOLAR DISORDER PATIENTS

Lead Author: Jennifer Dore, M.D.
Co-Author(s): Farnaz Hooshmand MD, Shefali Miller MD, Natalie Portillo MA, Po W. Wang MD, Shelley J. Hill MS, Terence A. Ketter MD

SUMMARY:
Objective: To identify demographic and clinical correlates of standard (1-3 psychotropics) compared to complex (? 4 psychotropics) pharmacotherapy in medicated bipolar disorder (BD) outpatients upon entry to a tertiary care BD clinic.
Methods: Medicated patients with BD Type I or II referred to the Stanford University Bipolar Disorder Clinic during 2000-2011 and assessed with the Systematic Treatment Enhancement Program for BD (STEP-BD) Affective Disorders Evaluation were categorized as taking standard versus complex pharmacotherapy. These groups were compared with respect to demographics and illness characteristics.
Results: 439 medicated BD outpatients (mean±SD age 36.1±13.4 years; 58.8% female; 52.4% Type I, 47.6% Type II; with illness duration 18.0±13.7 years; and Clinical Global Impression for Bipolar Disorder-Overall Severity score 3.8±1.5; taking 3.0±1.5 medications, 64.2% taking standard and 35.8% taking complex pharmacotherapy) were referred to the Stanford University Bipolar Disorder Clinic during 2000-2011 were assessed with the Systematic Treatment Enhancement Program for BD (STEP-BD) Affective Disorders Evaluation. Patients taking complex compared to standard pharmacotherapy were more often female (66.9% versus 54.6%), older (39.5±12.7 versus 34.1±13.3 years), and less often students (17.3% versus 26.8%), and had longer illness duration (21.2±13.9 versus 16.1±13.2 years), and more often had a lifetime history of anxiety (74.4% versus 60%) or any (89.1% versus 80.3%) psychiatric disorder, and more often had current syndromal/subsyndromal depression (49.0% versus 31.3%) and higher Clinical Global Impression for Bipolar Disorder Overall Illness Severity (CGI-BP-OS) scores (4.1±1.4 versus 3.6±1.5), but did not differ with respect to ethnicity, marital status, employment, education, onset age, bipolar subtype, history of alcohol/substance use, eating, or personality disorder, psychosis, psychiatric hospitalization, or suicide attempt.
Conclusion: Additional studies are needed to confirm our preliminary findings that patients taking complex compared to standard pharmacotherapy are more often female and older, with longer illness duration, more lifetime comorbid anxiety and psychiatric disorders, and current depressive symptoms.
Support: This research was conducted with support from the Pearlstein Family Foundation.

Poster No. 2-20

DEPRESSION IN LUNG CARCINOMA PATIENTS: STUDY FROM A DEVELOPING COUNTRY

Lead Author: Hulegar Ashok Abhishekh, M.B.B.S.
Co-Author(s): Arjun L Balaji, Ravindra M Mehta

SUMMARY:
Introduction: Lung cancer is one among the most common malignancies occurring in the world. Western literature describes varying rates (11%-44% prevalence) of depression in patients with carcinoma lung. Recent proton magnetic resonance spectroscopy has shown that brain metabolism is altered in these patients even before initiation of treatment. Studies have also shown that inflammatory cytokines are elevated in these patients. All these changes might have an important role in the alteration of cognitive functions and causation of depression. Expensive prolonged therapy, lack of health insurance facility, low social and economic status, and low educational background are additional risk factors for the development of depression especially in developing countries. Prevalence of depression in these patients remains unexplored in developing countries like ours. Here we are reporting prevalence of depression in a cross-sectional sample of patients with lung cancer.
Methods: Sample included 100 consecutive patients with a biopsy confirmed diagnosis of lung cancer who visited department of pulmonology, a private tertiary care general hospital, Bangalore, India, between September 2009 and October 2011. Patient had histopathological diagnosis of adenocarcinoma, small cell carcinoma, large cell carcinoma, squamous cell carcinoma, metastatic lung tumors were included. Hamilton depression rating scale (HDRS) was administered to all patients. Patients with a score 7 or more were considered to be 'cases' of depression.
Results: There were 74 males and 26 females in our study. Mean age was 59.05 years (SD= 12.4). Prevalence of depression was found to be 28 % (Mild=26%, Moderate=2%). Mean HDRS score was 10 (SD=1.6) amounting to 28% depression.
Conclusion: Prevalence of depression in patients with lung ca appears to be higher. To our knowledge this is the first study in India to report prevalence of depression in lung cancer patients. This study brings to notice an important clinical issue consultation liaison psychiatry. Further prospective studies are urgently needed to study depression in lung cancer. There is need to establish psycho-oncology wing especially in developing countries.

Poster No. 2-21

DIAGNOSIS ACCURACY BASED ON DSM-IV-TR CRITERIA AS DOCUMENTED BY PSYCHIATRY RESIDENTS

Lead Author: Maria Mirabela Bodic, M.D.
Co-Author(s): Scot McAfee MD, Theresa Jacob PhD, MPH

SUMMARY:
Background: The Diagnostic and Statistical Manual of Mental Disorders (DSM) provides standard criteria for diagnosing mental disorders. It is of paramount importance that all clinicians consider the same criteria and use common language when deliberating DSM diagnoses. Despite the risks of inaccurate or incomplete diagnoses, little has been written about complete chronicling of pertinent positive and/or negative criteria when diagnosing a mental disorder. We hypothesize that there is incomplete documentation of DSM criteria in the psychiatric evaluations to justify the Axis I diagnosis given to patients. Aims: 1) To compare the criteria documented in the psychiatric evaluations with the full criteria required in DSM for specific diagnoses; 2) To assess the diagnostic accuracy based on the time and setting of the evaluation as well as the resident's year of training; 3) To identify the shortcomings of our documentation and develop an educational tool for proper psychiatric documentation.
Methods: This study is a retrospective chart review analyzing recorded psychiatric evaluations, with diagnoses of Major Depressive Disorder, Major Depressive Disorder with psychotic features and Schizophrenia, performed at Maimonides Medical Center Emergency Room (ER) and Rapid Access Clinic (RAC) from 09/2011 to 08/2012. All psychiatric evaluations will be screened using set inclusion and exclusion criteria. Data include diagnoses, DSM criteria, time and setting of evaluations, resident's level of training, and patient demographics, collected using software we developed specifically for this project. Results: A total of 4821 evaluations in the ER and 301 evaluations in the RAC have been identified for the study period. Preliminary analyses demonstrate incomplete documentation of criteria required for an accurate DSM diagnosis in the evaluations

reviewed to date. Data collection is ongoing with our software, which adapts to the electronic medical records era, and provides easy verification modalities for both residents and faculty aspiring to improve their documentation skills. The interface is user-friendly and permits fast, accurate data collection by using drop down menus and radio buttons. It includes features such as a button for marking an accurate diagnosis when there is complete documentation of DSM criteria per diagnosis. The highest number of accurate diagnoses is expected for evaluations done in the outpatient setting, and by PGY2 and PGY3 residents. Conclusion: This study was undertaken with the goal of evaluating diagnostic accuracy based on extant documenttation, to identify areas for improvement and develop a teaching tool for correct and complete documentation. Although failure to probe for and record criteria for all DSM-specified diagnoses could result in over-, under-, or misdiagnosis of mental health disorders, to the best of our knowledge, this is the first study to examine the accuracy of DSM diagnoses based on criteria documented by residents.

Poster No. 2-22

DISRUPTED HIPPOCAMPAL RESTING STATE FUNCTIONAL CONNECTIVITY AND GLUTAMATE IN SCHIZOPHRENIA

Lead Author: Nina Kraguljac, M.D.
Co-Author(s): David M White, Jennifer A Hadley, Meredith A Reid, Adrienne C Lahti

SUMMARY:
Background: Using the blood oxygen-level dependent (BOLD) signal during functional MRI (fMRI), functional connectivity investigates the synchrony of spontaneous neural activity between brain regions. Given the known association between BOLD signal and glutamate (ref), we tested the hypothesis that alterations in hippocampal resting state functional connectivity (rsFC) in schizophrenia were related to hippocampal glutamate levels, as measured using magnetic resonance spectroscopy (MRS).
Methods: We conducted an fMRI and MRS study in 19 unmedicated patients with schizophrenia (SZ) and 19 matched healthy controls (HC). All imaging was performed on a 3T scanner. The rs scan was acquired during a five-minute gradient recalled EPI sequence. Preprocessing included slice time correction and realignment, normalization to MNI space, smoothing using DARTEL. Nuisance regressors included the six motion parameters, and components of white matter and CSF explaining 90% of signal variance identified using a principal component analysis. Connectivity statistical parametric maps of the hippocampus were calculated for each participant by extracting the first principle component of the time series from a structurally defined mask of the left hippocampus (AAL atlas). The resulting volume of interest was regressed on whole brain BOLD signal to produce a connectivity map of the left hippocampus with every other voxel in the brain. To assess connectivity strength, eigenvariates were extracted from the hippocampus and precuneus, correlated and then z-transformed. MRS data were collected from a voxel in the hippocampus using the point resolved spectroscopy sequence (PRESS; TR/TE=2000/80 ms) and analyzed in jMRUI. Spectra were quantified in the time domain using the AMARES algorithm. Glutamate+glutamine (Glx) were quantified with respect to creatine (Cr).
Results: We found hippocampal rsFC to the precuneus to be significantly decreased in SZ compared to HC [t(4.76), kE= 726, pFDRcorr= .001, MNI coordinates: x= -2, y= -56, z= -46]. Glx/Cr did not differ between groups. Connectivity strength between hippocampus and precuneus were correlated to Glx/Cr in HC (r= 0.44; p= .04) but not SZ (r= -0.18; p= .25); a difference that was statistically significant (z= -1.84; p= .03).
Conclusion: Our results indicate that deficits in hippocampal rsFC may be related to a disruption in glutamate signaling in patients with schizophrenia. Further studies will need to be conducted to replicate and further explore these findings.

Poster No. 2-23

DON'T SHOOT THE MESSENGER: INTERPROFESSIONAL ERROR DISCLOSURE (IPED)

Lead Author: Kristin Valderas Escamilla, M.D.
Co-Author(s): Carly Christensen, Ana Marie Houser RN CHPN, Sarah Jungnitsch RN, Abigail Rohan

SUMMARY:
Purpose: The purpose of this project is to create and present a proposal for a training module on error disclosure targeting multiple health professionals that work together as a collaborative team. A primary objective was to design a program that is affordable, engaging, applicable to many clinical settings, and logistically easy to coordinate.
Background: Error disclosure allows for transparency, improved patient care, and the facilitation of trust and collegiality. The Interprofessional Error Disclosure (IPED) curriculum is unique in that it addresses the current lack of interprofessional education on error disclosure and stresses that recognition of and intervening with errors is the responsibility of the entire patient care team. Teamwork and support systems are critical in facilitating error disclosure, and approaching this from an interprofessional perspective will not only emphasize this, but it will also encourage a professional culture based on values and ethics.
Description: A predetermined facilitator will lead this single 3-5 hour training session where different healthcare professionals will be in attendance. The session will begin with a guided discussion on error disclosure myths, the current culture change regarding them, and the steps in apologizing. Then, a video of patients affected by medical errors will be viewed to increase empathy for patient experiences of medical mistakes. Participants will then be separated into smaller groups each consisting of different professions and will engage in an icebreaker detailing their respective daily responsibilities to help educate one another. A case scenario in which a medical error was made will be assigned to each group and they will be responsible for discussing the errors involved, brainstorming corrective actions, and simulating the act of disclosing the error through role-plays. The groups will present and discuss their cases, and the program will end after a debriefing by the facilitator.
Outcomes: These will be assessed by using pre- and post-tests assessing skills, awareness, comfort, and confidence following the training. In addition, each small group will have the opportunity to create and share a "cheat sheet" that will facilitate the error disclosure process in the future.
Conclusions: Training on error disclosure, especially one that targets interprofessional collaboration, is a necessity and is currently lacking in the health profession. Not only does such training improve collegiality, but it can also improve patient and professional satisfaction. The design of IPED illustrates that interdisciplinary error disclosure training can be affordable, efficient, helpful, and fun.

Poster No. 2-24

DUAL AGENCY IN THE MILITARY: MITIGATING THE INFLUENCE OF A THIRD PARTY IN THE THERAPEUTIC DYAD

Lead Author: Adam Lee Hunzeker, M.D.
Co-Author(s): William Rumbaugh, MD
Vincent Capaldi, MD

SUMMARY:
Background: Dual agency is a vital ethical consideration in modern military medicine. The primary ethical underpinnings of beneficence, autonomy, non-maleficence, and justice are predicated on the assumption that our patients are our primary focus. Complications occur when the interests of a third party

interfere in the physician-patient dyad. For decades the preponderance of literature about dual agency was focused on the military. This unique clinical environment is considered a danger zone for providers due to the proclivity for dual agency and boundary violations. Military psychiatrists must balance the needs of the organization to maintain combat fitness for austere environments while providing care and reducing barriers to care. The daily challenges military psychiatrists face as a dual agent are illustrated in the case below.
Case: 23 year old enlisted sailor with diagnosis of borderline personality disorder, post traumatic stress disorder, and depression with one hospitalization for suicidal ideation seen for exacerbation of symptoms in the context of legal stressors. The patient's legal charges stemmed from military misconduct resulting in a pending courts martial and significant conflict with her command. Both command and patient were at odds regarding the necessity and effect of a medical board evaluation (MEB) for fitness for duty and possible medical retirement.
Discussion: The case depicts the duality of a military provider. There is clearly a third party involving itself in the therapeutic dyad with its own agenda creating a conflict of interest. Initiation of a medical board would likely serve as a mitigating factor in the case and assist the patient financially if discharged. Initiating a time consuming process of a medical board would also delay her departure from the military for more than a year perpetuating her current malignant environment. This would also deprive the parent unit of a replacement service member, impacting the unit's mission readiness. The duty of the psychiatrist to the commander is codified in military law and specific in nature. On the other hand, the responsibility of the psychiatrist is governed by many principles including the Hippocratic Oath. We will highlight the specific legal obligations of a military psychiatrist as a dual agent, and then recommend guiding principles to navigate these daily scenarios. Awareness of these are important outside the military system as millions of veterans seeking care in the community have perceptions of psychiatry colored in the military environment. Additionally, our civilian colleagues are beginning to face similar challenges with the implementation of managed care models that are subjected to increased scrutiny over efficiency and cost.
Conclusion: Awareness and insight into the impact of dual agency in the military model is essential. Learning to balance these demands is valuable for providers both in the military and civilian settings.

Poster No. 2-25

EASY ACCESS TO ALCOHOL IN SUBSTANCE ABUSE TREATMENT PROGRAM: A POTENTIAL FAILURE/BREACH IN TREATMENT

Lead Author: Ankur Patel, M.D.
Co-Author(s): Mahreen Raza, M.D., Fouad Eljarrah, M.D.

SUMMARY:

Alcohol-based hand sanitizers containing 60% to 95% ethanol or isopropanol are everywhere in the health care setting. These preparations prevent pathogen transmission more effectively than hand washing. As such, the CDC and the JACHO endorse use of these agents to decontaminate hands that are not visibly soiled. Nevertheless, the presence of these agents in hospitals may create some possible hazards. Herein, we report a case of ingestion of ethanol-based hand sanitizer in a patient with alcoholism who was hospitalized for in-patient rehab program. 25 y/o Caucasian male, 100% Service Connected for PTSD, domiciled, single admitted to Residential Substance Abuse Treatment Program. He denies any previous history of suicide attempts but as per chart he has history of multiple overdoses on heroin, rubbing alcohol needing intubation and medical ICU care. Patient admits to drinking rubbing alcohol in the past, stated he did it because he was experiencing cravings and not because he was suicidal. Patient's psychiatric history is remarkable for multiple rehabs and several acute psychiatric admissions since 2010. Hand sanitizers are located inside the doorway of every patient room in almost every hospital. To prevent transmission of pathogens, health care staffs are encouraged to use the sanitizer when entering or leaving patient rooms. Indeed, we endorse this practice. However, health care institutions should consider removing these agents from rooms occupied by high-risk patients such as those with alcoholism, those who are admitted with acute intoxications, and psychiatrically unstable patients. Indeed, despite one-to-one monitoring, our patient managed to acquire and ingest the sanitizer, perhaps because the health care staff perceived the product to be harmless or nonthreatening as a potential toxin. Our case also affirms the need to repeat toxicology testing in hospitalized patients with abrupt changes in mental status, particularly given that alcohol-based hand sanitizers and other potentially ingestible toxins are everywhere in the hospital setting.

Poster No. 2-26

EFFECT OF DUTY HOUR RESTRICTIONS ON RESIDENT BURNOUT: A SYSTEMATIC REVIEW

Lead Author: Daniel Williams, M.D.
Co-Author(s): Gian Tricomi, MD

SUMMARY:

INTRODUCTION: Burnout is a syndrome triad of emotional exhaustion, depersonalization and sense of decreased personal accomplishment, as defined by the validated Maslach Burnout Inventory. The prevalence of burnout among medical students and residents is between 40-76% and its presence doubles one's risk for a formal mood disorder. The 2003 ACGME duty hour restrictions that imposed the 80-hour work week limitation, though intended to address patient safety, may have had an impact on resident burnout. To date, only one systematic review of the effect of interventions to address burnout in residents has been conducted – but it excluded the impact of duty hour restrictions.
NULL HYPOTHESIS: The 2003 ACGME duty hour restrictions had no effect on resident burnout.
METHODS: OVID-SP Medline, Google Scholar and PsychINFO were searched for combinations of medical subject headings (MeSH) terms: premedical students, medical students, internships, intern, medical graduate, clinical clerkship and residents in combination with a keyword group of burnout, professional burnout, suicide, attempted suicide and prevention. International studies were included. The quality of research was graded using the Strength of Recommendation Taxonomy (SORT) scale.
RESULTS - Seventeen studies were selected for inclusion in this review. Over one dozen different types of interventions and combinations of interventions were used. There were no studies available on burnout among premedical students, nor were there any data on suicide prevention among medical students or residents. Level A-2 ratings were given to the six studies demonstrating the generally positive impact of the 2003 ACGME duty hour restrictions on burnout. The 11 other studies were rated as B-2, largely because of the paucity of available studies.
CONCLUSIONS - The A-2 SORT level for the 2003 ACGME duty hour restrictions may warrant extrapolation to support a net decrease in at least the Emotional Exhaustion subscale of the Maslach Burnout Inventory across the US graduate medical education population.

Poster No. 2-27

EFFECT OF MEDICATION CHANGES ON OUTCOMES IN DEPRESSION DURING PARTIAL HOSPITALIZATION

Lead Author: Elizabeth Janopaul-Naylor
Co-Author(s): Amy Yang, MD, Rendueles Villalba, MD

SUMMARY:
Introduction: SSRIs typically take anywhere from 2 to 6 weeks to show therapeutic effects (Nierenberg, 2000). Meanwhile, programs for managing acute depressive symptoms such as partial hospital programs last one to 2 weeks. To our knowledge, no studies have looked at outcomes of short-term medication changes in a partial hospital program providing intensive group and individual therapy (Rush, 2004, APA 2010). Even as partial hospital programs are increasingly utilized, no researched guidelines indicate best practices and most effective treatments in this important treatment setting (Horvitz-Lennon, 2001; Lieberman, 1986). Nonetheless, utilization reviews by insurance companies often dictate that providers make medication changes in order to justify ongoing care.
Objective: This study attempts to answer the question: should medication changes be a priority during partial hospital stays or is psychopharmacologic management best deferred to follow-up outpatient care? Researchers hypothesized that patients who had changes made to their medications during their partial hospitalization stay would have no significant differences in depression symptomatology at discharge, compared to patients who had no medication changes.
Method: In this naturalistic, retrospective chart review, researchers followed 1,094 patients admitted to the Rhode Island Hospital Partial Hospital Program with a diagnosis of major depressive disorder who were already taking selective serotonin reuptake inhibitors (SSRIs). Researchers collected data on patients' self-reported depression scores from baseline to discharge, comparing patients receiving medication changes (initiation, augmentation, or discontinuation) to those with no change in their medication regimen. Depression scores were measured using the Clinically Useful Depression Scale (CUDOS) (Zimmerman, 2004, 2008).
Results: All patients leaving the partial hospital program showed significant improvements in their depression scores. Patients without medication changes were less symptomatic at admission than patients who received medication initiation, augmentation, or discontinuation. Discharge depression scores did not significantly differ between the groups.
Conclusions: Self-reported depression scores significantly improved for patients admitted to the partial hospital program. There were no differences in discharge depression scores, regardless of whether medications were changed. When considering treatments for short-term partial hospital stay, clinicians and insurers may want to consider whether psychopharmacologic treatment holds as much therapeutic effect as other, non-somatic, therapies. Making modifications to medications during a brief partial hospitalization stay may not provide enough time to assess effectiveness.

Poster No. 2-28

EFFECTS OF ANTIDEPRESSANTS ON NEUROPSYCHOLOGICAL FUNCTION RELATED TO COMBAT PERFORMANCE

Lead Author: Dominick R. Fernandez, M.D.
Co-Author(s): Massoud Nikkhoy, MPH, Kristine B. Glass, MD, Robert McLay, M.D. Ph.D.,

SUMMARY:
Psychiatrists are sometimes asked to make recommendations affecting patient's ability to carry a firearm. Currently, there are no standardized psychological measures that demonstrate the impact of psychotropic medications on firearms proficiency in a combat setting. Unfortunately, there are no established criteria to determine suitability of firearms use. The objective of this study is to establish the factors that predict aspects of firearms performance, lay the groundwork for more evidence-based methods of screening and determine how medications used to treat depression or anxiety impact a person's ability to think clearly, make decisions and react quickly in a combat scenario. Subjects between the ages of 18 and 65 were recruited from military bases and clinics in San Diego and placed in psychiatric patient and control groups. Exclusion criteria included a diagnosis of bipolar disorder, psychosis, seizure disorder, traumatic brain injury, acute suicidal or homicidal thinking and ownership/significant interaction with the video game used. Subjects were administered The Patient Health Questionnaire 9 (PHQ-9), PTSD checklist (PCL), Beck Anxiety and Inventory (BAI) to verify the absence of significant psychiatric impairment. Qualifying participants were given a traditional measure of neuropsychological function, the Automated Neuropsychological Assessment Metrics. Afterwards, subjects engaged in simulated target shooting and firefights using a video game and a light gun (Lethal Enforcers). Video game performance was compared to psychiatric symptom scores, and traditional measures of neuropsychological function. Testing was repeated four to six weeks later to examine reliability and practice effect. T-tests were used to examine firearms score between patients and controls. Finally, stepwise linear regression models were constructed to best predict firearms score and safety (civilian targets hit), based on available information.
Results indicated correlations among measures of neuropsychological functioning and firearm performance. Relationships with self report of symptom severity were less robust. Psychiatrists may be better served to use neuropsychological testing rather than symptom severity to determine suitability for firearms use. Further work is needed to establish norms, and examine real world performance.

Poster No. 2-29

ELECTROCONVULSIVE THERAPY IMPROVES MOOD AND SLEEP IN A PATIENT WITH ENCEPHALITIS AND CIRCADIAN RHYTHM SLEEP DISORDER, IRREGULAR SLEEP-WAKE TYPE

Lead Author: Michael Seyffert, M.D.
Co-Author(s): George Gettys, MD, PhD, Dan Maixner, MD

SUMMARY:
Circadian rhythm sleep disorder with irregular sleep wake pattern demonstrates a disorganized sleep-wake pattern with variable sleep and wake lengths. Patients may complain of insomnia or hypersomnia as well as significant cognitive disturbances. Irregular sleep-wake pattern may occur among individuals with injury to their central nervous system, in particular among those who suffer from hypothalamic lesions. Disruption of the normal sleep pattern may result in profound deficits in vocational aptitude and inability to take part in family activities. Many patients become depressed and some may even require hospitalization with resulting high medical costs. Here we present the case of a 55-year old patient with profound depression and a decade long history of irregular sleep wake pattern after an episode of viral encephalitis who showed normalization of his irregular sleep pattern and improvement in his depressed mood after several courses of electroconvulsive therapy (ECT).

Poster No. 2-30

EVALUATION OF MEMORY AND COGNITION AMONG NATIVE AND NON-NATIVE AMERICANS OF PHOENIX, AZ USING MONTREAL COGNITIVE ASSESSMENT (MOCA).

Lead Author: Maryam Hazeghazam, M.D., Ph.D.

Co-Author(s): Jan Dougherty, MS, RN, Veronica Ellis, Filmer Lalio, Helle Brand, PA, Roy Yaari, MD, MAS

SUMMARY:

Alzheimer's disease is a progressive neurodegenerative disease and is diagnosed clinically by documenting dementia and excluding medical causes. It is estimated that 5.4 million Americans have Alzheimer's disease (AD) in the US, and that its prevalence will reach to about 14 million by year 2050. Due to the importance of diagnosing and preventing further worsening of the AD, it is essential to have culturally and ethnically valid screening tools for all groups, including underserved Native Americans. Native Americans are at high risk for dementia, including AD, because of higher prevalence of hypertension, stroke, diabetes, and related risk factors, however, little is known about performance of cognitive screening tools in these individuals. We performed an exploratory study of the potential validity and utility of a nonproprietary screening tool, the Montreal Cognitive Assessment (MOCA), in two ethnically and culturally diverse groups, Native Americans (NA) and non Native Americans (nNA), largely Caucasian community dwelling residents. Our initial findings suggest that this popular and freely available screening tool may have limited utility for screening cognitive performance in Native American individuals, and suggest that the field needs to modify existing tools or develop new ones.

Poster No. 2-31

FRONTAL VERSUS TEMPORAL LOBE EPILEPSY: PERSONALITY TRAITS AND NEUROPSYCHOLOGICAL PROFILE

Lead Author: Leila Magali Doldan, M.D.

Co-Author(s): Buyatti, D,; Farez, M, Martinetto, MP, Ugarnes, G , Harris, P , Russo, G ,,Bagnati, , D´Giano, ,Allegri, RF,

SUMMARY:

Background: personality traits and depressive symptoms have been described in epileptic patients, mostly in temporal lobe epilepsy (Gastaut-Geschwind syndrom). Lately it has been found specific cognitive impairments.

Objective: To compare personality traits, depressive symptoms and neuropsychological profile in patients with temporal lobe epilepsy (TLE), frontal lobe epilepsy (FLE) and healthy controls.

Design/Methods: 36 patients aged 18 years or older (16 with FLE and 20 with TLE) matched by age and educational level with 30 healthy controls were studied with Bear Fedio personality Inventory, Depression Inventory in Epilepsy (NDDI-E), an extensive neuropsychological assessment (Trial Making Test A and B, digit span, digit-symbol subtest Wais III, Signoret memory battery, Boston Naming Test, Semantic Fluency, Phonological Fluency, Stroop Test and Letter-Number Test (Wais III).

Results: when FLE present more traits of circumstantialities, religiosity and dependency, while patients with TLE present vital sadness, irritability, aggressiveness, hyposexuality, feelings of guilt, obsessionalism, circumstantiality, viscosity, self appreciation, dependency and sobriety than healthy controls. In between groups comparison, FLE patients differed significantly from TLE patients in aggression, feelings of guilt, obsessionalism, circumstantiality, viscosity, religiosity and sobriety. At the neuropsychological assessment, a significant impairment in language, executive functions, attention, and verbal and visual memory were found in patients with FLE and TLE compared with healthy controls. Finally 27% of FLE patients suffered depression, compared with 14% TLE patients.

Conclusions: To define neuropsychological characteristics, depressive symptoms and personality traits allows a comprehensive approach to epileptic patients.

Poster No. 2-32

GYNECOMASTIA IN ADOLESCENTS TAKING PSYCHOTROPIC MEDICATIONS: SHOULD WE ALWAYS BLAME THE MEDICATION(S)

Lead Author: Arpit Aggarwal, D.P.M., M.D.

Co-Author(s): Gaurav Kulkarni MD, Sultana Jahan MD

SUMMARY:

Gynecomastia stems from the Greek term for the presence of female mammary glands in men and is characterized by the enlargement of glandular tissue in the male breast 1 . Physiologic gynecomastia has a trimodal age distribution, commonly occurring in neonates, pubertal boys, and elderly men. Pubertal gynecomastia is defined as benign breast enlargement that begins during male puberty, and is not associated with an underlying pathogenic cause, such as an endocrinopathy or pharmaceutical exposure 2. True gynecomastia must be distinguished from pseudogynecomastia. In the latter process, only adipose tissue is enlarged, while the glandular components of the breast are not. Deposition of adipose tissue often leads to breast enlargement, mimicking the appearance of true gynecomastia. With the current obesity epidemic, the clinician is likely to see many more patients with breast area enlargement due to pseudogynecomastia than true cases.3 The reported prevalence of pubertal gynecomastia ranges from 3.9 to 64.6% 4,5. This large variance is likely in part due to the lack of uniform breast size criteria to define gynecomastia. Here we present a case of a 12 year old male who was seen at The University of Missouri, Child and Adolescent outpatient clinic with his parents. A full psychiatric evaluation was performed and the adolescent was diagnosed with Bipolar mood disorder, not otherwise specified. He was started on Risperidone 0.5 mg BID and then was seen at monthly intervals for the next 3 months with gradual improvement of symptoms. At the 3 month visit the patient described that he was concerned that his "breasts" were getting bigger. On examination, there was bilateral breast enlargement measuring about 2 cms. The patient did not have any significant medical history, denied using other medications and there was no history of using any drugs of abuse. A prolactin level was done and interestingly it was 3.4 ng/mL (reference range for the lab was 4.0 – 15.0 ng/mL). Child health endocrinology was consulted and they opined that it was most likely pubertal gynecomastia. They also recommended watchful observation and the breast enlargement subsided over the course of next one year, while the patient was still taking the Risperidone. Although there was temporal relationship between the administration of Risperidone and the subsequent enlargement of breast tissue, the normal prolactin level and the self-resolution suggests that it was not due to the medication. This case
highlights the importance of a detailed evaluation of an adverse effect before attributing it to a medication.

Poster No. 2-33

HYPONATREMIA IN PATIENTS WITH CHRONIC SCHIZOPHRENIA, BIASES IN DIAGNOSIS AND DECISION MAKING: A CASE REPORT

Lead Author: Aikaterini Fineti, M.D.

Co-Author(s): Rakesh Goyal, MD. Maria del Pilar Trelles, MD. Rashi Aggarwal, MD.

SUMMARY:

Introduction: Hyponatremia is the most common electrolyte disorder in the United States. Hyponatremia can have various causes; one of them, psychogenic polydipsia, is seen most commonly among patients with schizophrenia. Psychogenic polydipsia can lead to severe hyponatremia. That said, psychogenic polydipsia is an uncommon cause of hypona-

tremia. On the other hand, medical problems are often neglected in psychiatric patients. We present a case of a woman with chronic schizophrenia who was admitted to the hospital multiple times for psychiatric and medical problems, and was presenting a degree of hyponatremia in every single admission. Hyponatremia in this case was thought to be due to psychogenic polydipsia until it eventually became apparent that the patient had a lung tumor. Inappropriate secretion of ADH by the cancer cells was the true cause of hyponatremia.
Case Report: The patient is a 45 yo woman with a long history of schizophrenia, mixed connective tissue disease, and COPD, who presented with lower extremity edema and progressively worsening abdominal "bloating". On her last admission the patient also presented with altered mental status. Over this past year, after having been stable for about 20 years on injectable antipsychotics, the patient had four medical and two psychiatric admissions. In a recent medical admission the patient was diagnosed with psychogenic polydipsia. In a subsequent admission a CT scan of the chest revealed a suspicious mass in the right middle lobe, most likely malignant. However, the disease had already spread and the patient had decompensated mentally to the point that no other treatment but hospice care could be considered.
Discussion: This seemingly common case of lung cancer in a psychiatric patient has a few lessons to teach. a) A deterioration in the mental state of a previously stable psychiatric patient may be due to a medical illness. b) A thorough investigation of the differential diagnosis instead of attributing all the symptoms of a patient to their psychiatric illness should always be the primary goal of the treatment team. c) Psychogenic polydipsia, although not uncommon in patients with schizophrenia in particular, should be carefully considered after a complete laboratory workup.

Poster No. 2-34

HYPOTHESIZING THE CAUSATION LEADING TO CONVERSION DISORDER: DIFFERENCES IN SEX HAS SOME ROLE TO PLAY

Lead Author: Mahreen Raza, M.D.
Co-Author(s): Atika Zubera, M.D.; Magdalena Spariosu, M.D.; Diego Coira, M.D., Daniel Finch, M.D., Trisha Sharma, Nina Harkhani

SUMMARY:
Objectives: 1) To learn and explore more data about gender differences, personality traits and psychosocial stressors as triggers or manifestations of conversion disorder which may have an impact on treatment, prognosis and outcomes of conversion disorder. 2) To explore the limited literature that is available on the presentation of conversion disorder in males versus females. 3) To understand the role of psychotherapy in addressing different underlying conflicts in patients with conversion disorder.
Methods: Case presentations and literature review
Results: We have studied two interesting cases of conversion disorder (CD) that we have encountered in Psychiatry CL service. The first case is of a 51 year old unemployed Caucasian male with dependent personality traits with a dominant spouse and the second case is of a 54 year old Hispanic female with avoidant personality traits and history of sexual abuse as a child. Patients with both sexes presented with psychogenic non epileptic seizures under periods of psychosocial stressors. In the literature review there is limited information about the underlying conflicts in different sexes and different personality traits serving as triggers in the manifestation of CD and through our case presentations we are suggesting that exploring those conflicts and the role of psychotherapy in addressing the conflicts might have an impact on the treatment, prognosis and outcome of CD.
Conclusions: Our cases suggest that there might be a link between the different sexes, their personality traits and underlying conflicts they have, in the manifestation of CD. Through more case studies, we hope to explore this link and to contribute further to this narrow field of research.

Poster No. 2-35

IMPACT OF A PROMOTIONAL CAMPAIGN ON REFERRAL VOLUMES AT A PSYCHIATRIC HOSPITAL

Lead Author: Paul Victor Benassi, M.D.
Co-Author(s): Karline Naylor, Yang Chen, Marcos Sanches, Dr. Paul Kurdyak

SUMMARY:
Objective: The minority of individuals suffering from mental illnesses and addictions do not seek help. Little is known about encouraging these individuals to seek health care. In March 2010, the Centre for Addiction and Mental Health (CAMH) embarked on a local, public campaign to reduce stigma associated with mental illness and addiction and to increase awareness of available services at CAMH. The objective of this study was to measure the impact of this campaign on visit rates to CAMH's Psychiatric Emergency Department and General Psychiatry Assessment Clinic.
Methods: Administrative data records from consecutive patient visits to CAMH psychiatric emergency department (PED) (n = 29069) and referrals to general assessment clinic (GAC) (n = 8326) were grouped separately by month from April 1, 2006 to December 31, 2011. All patients who presented to the PED and GAC were included; there were no exclusion criteria. The impact of the CAMH "Transforming Lives" campaign on PED and GAC visit volume was measured using time series analysis.
Results: The average monthly PED visits in the 12 months before and after the initiation of the campaign were 402 and 458, which was a highly significant increase (T-test 4.196 $P<0.0004$). The average monthly GPAC visits in the 6 months before and after the initiation of the campaign were 106 and 173.5, which was a highly significant increase (T-test 11.951, $P<0.0001$). The time series model showed that PED volumes increased gradually at a rate o 8.2 visits/month (95% CI 4.22-12.26; $P<0.001$) and the GAC visit volume experienced an immediate and sustained increase of 44 visits/month (95% CI 22-66; $P<0.001$) post-intervention.
Conclusion: Public campaigns that address stigma and encourage help-seeking such as the CAMH public awareness campaign, may be effective strategies to encourage individuals with mental illness or addictions to seek help through self and/or physician referral to mental health services.

Poster No. 2-36

IMPROVING LEVEL OF FUNCTIONING AND QUALITY OF LIFE IN MENTAL HEALTH PATIENTS VIA SMARTPHONE APPS

Lead Author: Ying A. Cao, M.D.

SUMMARY:
Objective: Investigate ways in which software applications (apps) can make smartphones a new kind of timely, organized, multipurpose, personalized, and effective toolbox for minimizing symptom- and disease-burdens and maximizing the overall level of functioning and quality of life in mental health patients.
Method: While most studies focused on apps that are more disease-based and psychoeducation-oriented from clinicians' perspective, this study focused on management of symptoms and holistic mental health and wellness from patients' perspective by: 1) identifying specific complaints commonly encountered in psychopharmacological as well as psychotherapeutic settings; 2) surveying Apple's AppStore and compiling shortlists of the most relevant apps based on ratings and reviews by the general public as well as the author; and 3) demonstrating how to utilize these apps by showing actual screenshots of these apps in action.
Results: Shortlists and screenshots of the most effective smartphone apps were compiled for each of the common

patient complaints that are categorized into four areas of mental healthcare: 1) symptom management--anxiety, impulse control, mood dysregulation, distractibility and forgetfulness, insomnia, loneliness, etc; 2) side-effect management and preventative care--metabolic syndrome, weight gain, etc; 3) record keeping--summary of therapy sessions, mood diary, sleep log, thoughts records, coping cards, alarms and reminders, personalized psychoeducation collection, etc; and 4) complementary and integrative mental healthcare--music therapy, mindfulness meditation, biofeedback, medical hypnosis, memory and concentration games, yoga, peer-support forums, etc.
Conclusion: Extensive reviews and trials of the existing apps suggest smartphones--through their 24-7 accessibility and versatility--can serve as timely and effective re-enforcers that can help habituate adaptive thoughts and behaviors and thus attain higher level of functioning and quality of life. Some obvious limitations include affordability and the requirement of a certain level of baseline functioning to operate smartphones. However, as smartphones become ever more affordable and easy-to-use, some future work would include 1) conducting clinical trials of smartphone apps in the appropriate patient populations to assess efficacy, 2) relaying feedback from patients and clinicians to apps developers to optimize efficacy, and 3) training clinicians to facilitate patients' utilization of the appropriate apps.

Poster No. 2-37

IMPROVING THE QUALITY OF THE INPATIENT MEDICATION RECONCILIATION PROCESS IN PSYCHIATRY

Lead Author: Anetta Raysin, D.O.
Co-Author(s): Vivian Fernandez, Scot G. McAfee MD, Theresa Jacob PhD, MPH

SUMMARY:
Background: Patient safety is the cornerstone of quality care among all medical specialties and institutions nationwide. Given the significance of documentation in the care provided, the Committee of Interns and Residents and the Joint Quality Improvement Committee along with hospital administration at Maimonides Medical Center developed a medication reconcile-iation project, carried out by resident physicians in the academic medical center. Medication reconciliation is the process of maintaining an accurate list of patients' medications from the time of admission and ensuring that discharge medications reflect their hospital course. Objective: To improve the accuracy of the medication reconciliation process performed at the time of discharge while meeting target improvement rates during four review periods. Additionally, the project emphasizes peer education and collaboration in learning how to accurately complete the reconciliation for every patient admitted to the inpatient services. Methods: A series of chart reviews established the baseline accuracy of the existing reconciliations and set up target percentages for improvement. A checklist with requirements for the determination of a fully completed and accurate reconciliation was made. This was used in conjunction with other efforts as a means of peer education; for example, "super-users" providing one-on-one assistance on the units, chief residents giving reviews during meetings, and introducing new house staff to the process at time of orientation. The chart review methodology was distributed to residents who volunteered to participate in the subsequent audit. At this time, the psychiatric discharge summaries were used to identify discharge medications and were compared with the computer medication list to ensure that they were identical, while charting whether individual charts "passed" or "failed." These statistics were later reviewed to determine if there was an improvement in the reconciliation process in comparison to baseline metrics and whether the target goal was met. Results: After the first chart review assessment, the psychiatry department showed a significant improvement in the reconciliations. With the baseline accuracy of 39%, psychiatry exceeded the first target goal of 59%, achieving a total of 83% of passed charts. As such, psychiatry residents had the highest improvement rate among all other departments. Conclusions: Patient safety is a mutual goal of hospital administration and house staff working on a daily basis to ensure that every patient is provided proper care. As a result of this project, there was an increase in resident engagement, a reduction of flaws in the reconciliation process, and an increase in education regarding patient safety and goals for future improvement in subsequent chart reviews.

Poster No. 2-38

INCORPORATING RECOVERY IN ACTION FOR PSYCHIATRY RESIDENCY CURRICULUM

Lead Author: Marie Ruth Champlin, D.O.
Co-Author(s): Dr. Ali Abbas Asghar-Ali, Dr. Joshua Thomas

SUMMARY:
The most recent Substance Abuse and Mental Health Services Administration definition of recovery describes it as, "A process of change through which individuals improve their health and wellness, live a self-directed life, and strive to reach their full potential." The theme for the APA Annual Meeting in 2013, "Pursuing Wellness across the Lifespan" also underscores a recovery principle by placing the focus on "wellness" rather than "illness." Despite such widespread acceptance and endorsement of recovery perspectives, recovery oriented care has not been incorporated into most academic curricula or health care missions. This poster will outline curricula for teaching recovery oriented practices to psychiatry residents, integrating didactics and clinical rotations. Data supporting use of recovery education on an inpatient service will be presented.In 1961 the United States Joint Commission on Mental Illness and Health stated that, "the objective of modern treatment of persons with major mental illness is to enable the patient to maintain himself in the community in a normal manner." Since then, the American with Disabilities Act in 1990, the Surgeon General: Report on Mental Health (1999), and the New Freedom Commission on Mental Health in 2003 reiterated a focus on recovery oriented care. The most recent Substance Abuse and Mental Health Services Administration definition of recovery describes it as, "A process of change through which individuals improve their health and wellness, live a self-directed life, and strive to reach their full potential." Despite such widespread acceptance and endorsement of recovery perspectives, education about recovery oriented care has not been incorporated into most academic curricula. To address this need, a curriculum for recovery oriented practices was instituted at Baylor College of Medicine, Menninger Department of Psychiatry. In addition to a series of didactic sessions, residents received a four week curriculum during their inpatient rotation. The curriculum included a pre- and post-survey (recovery knowledge inventory), pre-reading, demonstration of recovery based interviews, and at the conclusion of the rotation, performance of a recovery based interview by the resident. Supervision was provided by a psychiatrist and psychologist. Results of the recovery knowledge inventory showed substantial improvement in a variety of domains. Based on preliminary results, the proposed rotation curriculum provides a mechanism of increasing residents' knowledge and practice of recovery based principles and may serve as a model for training at other institutions.

Poster No. 2-39

INTEGRATING PSYCHOSOCIAL CONCEPTS INTO PSYCHOPHARMACOLOGY TRAINING

Lead Author: Charles Jason Mallo, D.O.
Co-Author(s): David L. Mintz, MD

SUMMARY:
A growing body of evidence suggests that psychiatric treatment outcomes are shaped significantly by psychological and social factors surrounding the prescribing process. This is one of the reasons that the ACGME requires that residents be taught how to integrate psychosocial and biomedical theories and treatments. Little, however, is known about the extent to which psychiatry programs integrate these psychosocial evidence bases into psychopharmacology training. This study sought to elucidate this question. Psychiatry residency program directors and chief residents participated in an exploratory online survey. The hypothesis that psychosocial factors were overlooked, at least in relation to their actual importance, was supported. Results demonstrated that while psychiatry programs highly value the integration of psychosocial concepts in prescribing, there is limited emphasis of these factors in psychopharmacology education.

Poster No. 2-40

INTERESTING CASE OF FIRST-EPISODE MANIA IN OLDER ADULT TREATED WITH REGORAFENIB FOR METASTATIC GIST

Lead Author: Vishesh Agarwal, M.D.
Co-Author(s): Daniela Krausz, MD, Kimberly R. Best, MD

SUMMARY:
BACKGROUND: Although manic episodes in older adults are not rare, little published data exists on late-life manic episodes, especially first-episode mania. Associations to concomitant medical factors or neurological lesions are frequent correlates of elderly mania. Mania can also occur by chance association during drug treatment, particularly in patients predisposed to mood disorder. Drugs with a definite propensity to cause manic symptoms include levodopa, corticosteroids and anabolic-androgenic steroids. There are others for which evidence is less scientifically secure. In recent years, more interest has been seen in studying first-episode mania or psychosis, but most research has focused on first-episode psychosis, with less attention to first-episode mania and lesser to particular age groups. We present here an interesting case of first-episode mania in an older adult.
CASE: Mr. X is a 57 year old Caucasian male, previously diagnosed with major depression and anxiety of about five years, failed several antidepressant trials with suboptimal response. His depression had progressed to the point of catatonia. His past medical history is significant for metastasized GIST to the liver, treated with several chemotherapeutic agents and surgical resections at several centers. He continued to have disease progression which was complicated with diverticulitis and perforation, now with a colostomy. Patient participated in a drug trial of regorafenib, started improving and was doing well in six months. Two months later, Mr. X was admitted at our center on an involuntary commitment for irrational behavior, impulsivity, grandiosity, increased energy, pressured speech and extreme lability. His laboratory work up was unremarkable. He was started on risperidone and gradually titrated up. He continued to exhibit manic symptoms and divalproex sodium was added to the treatment regimen. He responded well to the regimen and in less than two weeks was discharged with a diagnosis of Bipolar Disorder I, Most Recent Episode Manic, Severe Without Psychotic Features. On a six month follow up visit with Mr. X's primary care physician, he had been tapered off his psychotropic regimen, stable and doing well on clonazepam as needed for anxiety.
DISCUSSION: The etiology of Mr. X's manic episode cannot be clearly associated to the study drug as he had been taking it for more than six months at presentation. Regorafenib is an oral multi-kinase inhibitor, demonstrated to increase the overall survival of patients with metastatic colorectal cancer in recent trials. There is no current literature that reports mood changes associated with use of this medication. More data needs to be reported in reference to emergence or presence of mood symptoms in patients treated with anti-cancer agents.

Poster No. 2-41

INTERVENTIONAL PSYCHIATRY: PLANNING FOR CORE COMPETENCY ACROSS THE PSYCHIATRY MILESTONE SPECTRUM

Lead Author: Nolan R. Williams, M.D.
Co-Author(s): Joseph J. Taylor, BS, Jonathan M. Snipes, MD, E. Baron Short MD, MSCR, Edward M. Kantor, MD, Mark S. George MD

SUMMARY:
Introduction: Interventional psychiatry is an emerging subspecialty at the interface of psychiatry and neurology that utilizes a variety of neuromodulation techniques in the context of an electrocircuit-based view of mental dysfunction as a major proximal contributor to refractory psychiatric illness. Currently, the general psychiatry residency predominantly focuses on teaching residents a variety of psychotherapies and psychopharmacology, yet has few standard expectations related to ECT and none related to interventional techniques such as deep brain stimulation (DBS) or neuroimaging. We propose the development of an interventional psychiatry training paradigm analogous to those found in cardiology and neurology. Comprehensive training in interventional psychiatry would include didactics in the theory, proposed mechanisms, and delivery of invasive and non-invasive brain stimulation. The development and refinement of this subspecialty area of psychiatry would facilitate safer, and better ensure effective, patient-centered growth in the field of brain stimulation by more consistent training and eventually certified and credentialed practitioners within the field. This attention and coordination will help drive the efficacy of treatments along with advances in clinical research.
Practice Gap: Emerging interventional psychiatric techniques, such as Transcranial Magnetic Stimulation (rTMS), Deep Brain Stimulation (DBS) and refined ECT strategies, will require a more standardized approach, including minimum expectations reflecting competency in regard to predetermined milestones, appropriate to training for the next generation of psychiatric practitioners and scientists. As there has been an exponential rise in the utilization of interventional psychiatric techniques over the last 10 years this, along with social, political and technical factors, has contributed to a further widening of the practice gap in the field. We present the evolving interventional psychiatry landscape, and propose strategies for integrating interventional psychiatric knowledge and propose core competencies, across various stages of psychiatric education, all in line with the evolving milestone movement and increasing oversight in medical education and maintenance of certification.
Educational Solution: We suggest that interventional psychiatry be introduced into training at three levels: (1) a core curriculum of knowledge and experience during psychiatry residency training, (2) well-defined, non-invasive neuromodulation track as a more advanced elective component of psychiatry residency training, and (3) a more formal post graduate interventional psychiatry fellowship. We hope to introduce the paradigm of an interventional psychiatric practitioner and propose a phased plan for integration of interventional psychiatric techniques, didactics and minimum competencies into psychiatric education.

Poster No. 2-42

INVESTIGATING THE ATTITUDES TOWARD NEUROSCIENCE EDUCATION IN PSYCHIATRY: THE STANFORD EDUCATION IN NEUROSCIENCE STUDY (SENS)

Lead Author: Lawrence K. Fung, M.D., Ph.D.

Co-Author(s): Mayada Akil, MD, Alik Widge, MD, PhD, Laura Roberts, MD, MA, Amit Etkin, MD, PhD

SUMMARY:

BACKGROUND: Neuroscience research has advanced the field of psychiatry, but not all psychiatrists learn about these advances either during or after training. The purpose of this study is to assess the attitudes of psychiatrists in training and in practice toward neuroscience education in psychiatry residency programs and beyond, in order to inform neuroscience education approaches in the future. METHODS: The Stanford Education in Neuroscience Study (SENS) was designed to capture demographic information, self-assessments of knowledge in neuroscience and its clinical applications, and attitudes toward neuroscience education. The surveys were distributed in 2 ways: (1) The American Psychiatric Association randomly-selected 4563 of its members consisting of 1000 psychiatrists and 3563 psychiatry residents and fellows to complete an online version of the survey. (2) Invitations to complete the SENS survey and paper copies of the survey were sent directly to 133 psychiatry department chairs in the U.S. via mail. RESULTS: Sixty-nine psychiatry department chairs, 107 psychiatrists, and 467 trainees filled out the survey. The trainees represented over 141 psychiatry residency or fellowship programs. Participants in all groups showed overwhelming agreement in the need for promoting neuroscience education in psychiatry: 94% of participants agree with the need for more neuroscience education in psychiatry residency training programs; 90% of participants agree with the potential of neuroscience to destigmatize mental illness; 73% of participants (86% of chairs, 80% of psychiatrists, 69% of trainees) believe that advances in neuroscience will lead to discovery of new treatments or personalized medicines in 5 or 10 years. In regards to the desire of learning neuroscience, this survey found that a discrepancy between department chairs and faculty members/private practitioners: 61% of chairs indicated that their faculty members would not be interested in attending a 3-day course in neuroscience, while 82% of faculty members expressed interest in attending the course. Similarly, 88% of chairs indicated that private practitioners would not be interested in attending a 3-day course in neuroscience, while 89% of private practitioners expressed interest in attending the course. Specific preferences in learning modalities (didactics and expert small group) and neuroscience topics (emotion regulation and attention/cognition) were also identified. DISCUSSIONS: This study demonstrates that psychiatrists in training and in practice as well as chairs of psychiatry would like to see more neuroscience education for psychiatrist during and after training. Surprisingly, psychiatry department chairs appear to underestimate their faculty members and private practitioners' interests in neuroscience education. Further analyses will aim at uncovering associations between demographic factors, self-assessments of knowledge in neuroscience, and attitudes toward neuroscience education.

Poster No. 2-43

INVESTIGATION OF ASSOCIATION BETWEEN CHILD ABUSE HISTORY AND DETAILED METABOLIC OUTCOME IN A PSYCHIATRIC POPULATION

Lead Author: Varun Shahi, B.S.

Co-Author(s): Yingying Kumar, B.S., Gen Shinozaki, M.D., Simon Kung, M.D.

SUMMARY:

Background: Child abuse history has been long thought to play an adversary role in metabolic outcome of an individual. Previous research has shown that the effect of emotional, physical, and sexual abuse can have metabolic consequences including higher body mass index (BMI) 1 and increased risk for obesity 2. Additionally, high BMI has been linked to diabetes in the US. 3 Also, comorbidity of psychiatric condition and metabolic condition is common. Thus, we sought to examine the effect of abuse on metabolic outcome of BMI and obesity in addition to fasting glucose, hemoglobin A1C, and diabetes in a sample of psychiatric patient population.

Methods: A retrospective chart review was conducted on 811 patients who received psychiatric care at Mayo Clinic, Rochester, MN, between 2004 and 2011. BMI data, fasting glucose, and hemoglobin A1C information was obtained during clinical visits or inpatient care. History of any type of abuse (sexual, physicial, and emotinal abuse) was identified through past psychiatric record. Associations between history of child abuse and BMI, fasting glucose, hemoglobin A1C, and obesity (BMI > 30) were analyzed.

Results: Of 811 patients (69% female, average age 43.2 years) 410 were identified as having no history of abuse while 401 were identified as having some type of abuse. We found a significant increase in BMI in patients who were abused compared to patients who were not abused (29.42 kg/m2 vs 28.45 kg/m p=.0347). In addition, females were significantly more likely to be abused, compared to males (p<.0001). We failed to find a statistically significant relationship between abuse history and fasting glucose, hemoglobin A1C, and diabetes.

Discussion: Our findings affirm previous research showing a relationship between abuse and an increase in BMI. However, we failed to show a significant relationship between abuse and fasting glucose, hemoglobin A1C, and diabetes which could partially be due to the limited data available on these variables. Further research is needed to investigate the pathophysiology of association between abuse, psychiatric condition and metabolic consequences.

Poster No. 2-44

INVESTIGATION OF ASSOCIATION BETWEEN DEPRESSION AFTER RENAL TRANSPLANT AND FIVE YEAR SURVIVAL

Lead Author: Andrew Tseng, B.A., B.S.

Co-Author(s): Gen Shinozaki, MD, Hatem Amer, MD, Mark Stegall, MD, Sheila Jowsey, MD

SUMMARY:

Introduction: Depression is a common mental health disorder that has a high prevalence among the medically ill, particularly in transplant patients. Around 30% of renal transplant patients are indicated with depression. It was shown that the depression severity is associated with poor survival after liver transplant (DiMartini et al., 2011). However, the impact of depression on long-term survival in renal transplant recipients has not been previously studied. We hypothesize that increased depressive symptoms in renal transplant recipients would lead to higher rates of transplant rejection and mortality.

Methods: 365 renal transplant recipients were investigated between 2006 and 2007 at Mayo Clinic, Rochester, Minnesota. Depression was assessed using the Patient Health Questionnaire (PHQ-9) at the time of follow up assessment status post transplantation. Mortality and graft failure were recorded at the five-year follow-up.

Results: 365 renal transplant recipients (age, 51 ± 13 years; 60% men) were studied. Average time interval between transplantation and follow-up was 5.1 ± 1.6 years. The average PHQ-9 scores from the post transplant assessment for living patients without rejection, living patients with at least one episode of acute rejection and deceased patients at the time of 5 year follow up were 3.9 ± 0.3, 4.2 ± 0.8 and 4.3 ± 1.2, respectively. Of the 364, 35 patients died, and 38 patients experienced acute rejection. Patients with higher depression score (PHQ-9 score greater than 5) showed a trend of higher likelihood of experiencing incidences of acute rejection and/or mortality than

patients with lower depression scores (79.2% vs. 87.3% non-incidence rate, p = 0.12).
Conclusions: Although this study has several limitations, including limited sample size and low incidence of rejection and death in renal transplant recipients in general, the preliminary results demonstrate the potential association between increased depressive symptoms and poorer outcome with incidence of rejection and mortality in renal transplant recipients.
References: DiMartini, A., Dew, M. A., Chaiffetz, D., Fitzgerald, M. G., Devera, M. E., & Fontes, P. (2011). Early trajectories of depressive symptoms after liver transplantation for alcoholic liver disease predicts long-term survival. Am J Transplant, 11(6), 1287-1295. doi: 10.1111/j.1600-6143.2011.03496.x

Poster No. 2-45

IS PTSD OVER-DIAGNOSED IN MILITARY CLINICS?

Lead Author: Kevin T. Holleman, D.O.
Co-Author(s): Vashudha Ram, Robert Mclay, M.D.

SUMMARY:

Background: Over 2.5 million troops have been deployed to Iraq and Afghanistan since 9/11. Many have come back with what has been called one of the "signature wounds" of these conflicts, Posttraumatic Stress Disorder (PTSD). Exposure to combat is often associated with PTSD. PTSD, according to Diagnostic Statistical Manual (DSM) is diagnosed using a structured clinical interview such as the Mini International Neuropsychiatric Interview (MINI). There is a debate on whether or not PTSD has since been correctly diagnosed. We set out to test this hypothesis.
Aim: To identify the rate of PTSD, as assessed by structured clinical interview, MINI, in participants who enrolled in PTSD research treatment studies, and in whom the referring clinical providers and case managers also diagnosed them to have PTSD.
Methods: The authors of this work are involved in a number of studies investigating treatments for PTSD. We have developed many standardized referral and assessment procedures that are common to all of our treatment studies. Data were taken from five treatment studies for PTSD from participants who were all patients at Naval Medical Center San Diego or Marine Corp Base Camp Pendleton. Most of our referrals for research studies come from clinical providers and case managers who diagnose participants to have PTSD. As part of research procedure, all participants were screened by a research assistant (RA) using a structured clinical interview, MINI. Upon completion of the structured interview, a licensed psychologist or psychiatrist reviewed the results of the research assessment and determined, based on his or her own clinical judgment, the appropriate and accurate diagnosis. Only those individuals where both the structured interview and the research clinician agreed on the diagnosis of PTSD were included in the studies. We reviewed the results of structured interviews to that diagnosed by the referral providers to determine if there were disparities between what was reported in structured interviews and what the referring clinical providers believed the diagnosis to be.
Results: Data from 201 participants were examined. 96% of participants had a diagnosis of PTSD, based on the MINI and confirmed by the licensed provider. All of them also had PTSD diagnosed by their referring providers or case managers. Among those negative for PTSD based on clinical interview, 3.9% of referring providers or case managers had diagnosed patients to have the diagnosis.
Conclusion: Contrary to the belief that PTSD is over diagnosed, our research sample revealed the diagnosis to be appropriate. Using the gold standard for diagnosis, structured interview, most participants were diagnosed to have PTSD by the referring providers or case managers and were also positive on the clinical structured interview conducted by the RA that was confirmed by the research clinical provider. This suggests that PTSD is neither over nor under diagnosed.

Poster No. 2-46

KETAMINE'S IMPACT ON CRAVINGS FOR ALCOHOL IN A POPULATION OF VETERANS WITH DEPRESSION AND ALCOHOL DEPENDENCE.

Lead Author: Erin Seery, M.D.
Co-Author(s): Robert Glenn, Dennis Orwat, Mark Hamner, Robert Malcolm

SUMMARY:

Background: Altered NMDA receptor function has been implycated in the development of alcohol dependence (Petrakis et al., 2004). These alterations have even been found in subjects with only a family history of alcohol dependence. Using Ketamine, an NMDA antagonist, those with a family history of alcohol dependence demonstrated an attenuated response to perceptual alterations and dysphoric mood as compared to those without such family history (Petrakis et al., 2004). In a different study, subjects having a family history of alcohol dependence and personal history of treatment resistant depression, reported a robust antidepressant response to Ketamine infusion (Phelps et al., 2009). Krystal et al. found that in detoxified alcoholics, Ketamine did not cause an increase in cravings for alcohol despite its similarity to alcohol in discrimination tests (Krystal et al., 1998). There has been limited investigation into Ketamine's effects both on the acutely depressed population with comorbid alcohol dependence. Given the response found in previous studies, subjects may have significant improvement in depression and have attenuated cravings for alcohol. Methods: Participants were treatment seeking male inpatients who were dependent on alcohol and experiencing an episode of major depression (n=4). Participants completed a clinical interview and responded to standardized questions that assessed cravings, depression, risk for suicide, anxiety, and dissociative symptoms. Following baseline assessment, subjects received a one-time infusion of Ketamine hydrochloride IV at 0.5mg/kg over 40 minutes. Participants then rated alcohol cravings using a visual analog scale at 10, 40, 80, 110, and 240 minutes post infusion as well as post infusion days 1, 2, 3, and 30. Results: A repeated measures analysis of variance was utilized to measure changes in visual analog scale scores (scale of 1 to 10) for alcohol cravings and for perceived ability to resist alcohol following infusion of Ketamine. There was a significant decrease in craving scores over time from baseline (p=0.00). At baseline the mean craving score was 4.5 (95% CI 1.21, 7.79). At 240 minutes post-infusion, there was a decrease to 2.5 (-1.74, 6.74). By Day 1 post-infusion the mean craving score had decreased to 0 (0,0). There was a significant decrease in resisting scores over time from baseline (p=0.018). At baseline the mean resisting score was 5.75 (95% CI 1.57, 9.93). At 240 minutes post-infusion, there was a decrease to 3.25 (-.75, 7.25). By Day 1 post-infusion the mean resisting score had decreased to 0 (0,0). Conclusions: These preliminary findings help identify ketamine's impact on cravings for alcohol use and may have important clinical implications in the treatment of comorbid depression and alcohol dependence. Data collection is ongoing and the full sample will be included in final analyses. Acknowledgment: NIDA grant R25DA020537 (PIs: Back & Brady)

Poster No. 2-47

LEGAL RESPONSES TO ZOOPHILIA: A REVIEW OF STATUTORY AND CASE LAW

Lead Author: Brian James Holoyda, M.D., M.P.H.
Co-Author(s): William Newman, MD

SUMMARY:

Sexual contact between humans and animals has been documented since the earliest recorded human history. Though societies' responses to such behavior have varied internationally, the response in the United States has typically involved condemnation and prosecution. Currently, there are thirty-one states with statutes prohibiting human-animal sexual contact. These statutes vary widely in defining which acts

constitute bestiality and applicable punishments. Despite the prevalence of anti-bestiality legislation, there is limited case law in the United States. Most commonly bestiality arises in legal cases involving sexually violent predator (SVP) civil commitments. Identifying offenders who commit acts of bestiality is important since these individuals are at an increased risk of committing a variety of other sexual and nonsexual violent acts against humans. Therefore, it is important for states to modernize their bestiality statutes to accord with current terminology and objectives for such laws.

Poster No. 2-48

LISTENING TO OUR PATIENTS WHO CANNOT HEAR

Lead Author: Melissa Goelitz, M.D.
Co-Author(s): Claudia Reardon

SUMMARY:
There are approximately 28 million people in the United States with some form of hearing loss, from mild to complete. An estimated 10% of that population relies on American Sign Language as its primary form of communication. Numerous studies cite a lack of appropriate education in caring for the Deaf/Hard of Hearing (HoH) population among healthcare providers, including mental health providers. This creates many barriers that prevent the proper utilization of health resources and leads to poorer health overall. Most research and interventions to date have not focused on training mental health professionals to cope with the needs of this community despite the population being at equivalent to higher risk for having mental illness than the general population. A seminar was developed and presented by author, Deaf advocate and two interpreters representing the Wisconsin Deaf/HoH community which focused on increasing awareness of this community's communication needs and culture. Attendees (n=18) of the seminar completed surveys examining: confidence to provide appropriate care to Deaf/HoH individuals, confidence to appropriately diagnose their mental illness, and comfort in working with sign language interpreters. The scores were from very confident (1) to entirely not confident (5). Number of patients seen and their roles within the clinic setting were also recorded. There was significant improvement in confidence to provide appropriate care with post-pre difference, -.650+-.996 (mean+-SD), p=.0165. There was no significant improvement in confidence to appropriately diagnose, -.29+-1.16, p=.31. There was no significant improvement in confidence in working with interpreters, -.41+-1.00, p=.11. Number of patients seen and role do not affect the difference in score. This project suggests that a seminar on working with Deaf/HoH patients may be effective in improving mental health providers' awareness of their skills and deficits. Future projects include expanding this educational module to other settings including presenting at local schools, working with an area crisis service line to expand their services offered, and collaborating with other residency programs to include this training in their residency.

Poster No. 2-49

MEDICAL STUDENT ACADEMIC PERFORMANCE AND BIOPSYCHOSOCIAL HEALTH IN A REVISED PRE-CLINICAL CURRICULUM

Lead Author: Megan Arvidson, B.S.
Co-Author(s): Ugur Sener, Andrey Khalafian, Phebe Tucker, M.D.

SUMMARY:
Objective: To prospectively assess whether students in a revised, systems-based pre-clinical medical curriculum report better biopsychosocial health and group cohesion and less stress than traditional, discipline-based curriculum students.
Method: We assessed sophomores from the Class of 2013 (traditional curriculum) and 2014 (revised, systems-based curriculum) at the start of courses and prior to comparable examinations. Surveys included a 14 item Perceived Stress Scale (PSS-14), a 6 item Perceived Cohesion Scale (PCS), an 11 item Curriculum Stress Questionnaire (CSQ), Beck Depression Inventory (BDI), Quality of Life Satisfaction Questionnaire (Q-LES-Q-18), and Test Anxiety Scale. Wilcoxon rank sum and Chi-square tests compared classes' data, significant at $p<0.05$.
Results: Class of 2014 reported poorer biopsychosocial health at commencement of the year. Although not in the range of clinical depression, the mean Beck Depression Inventory scores were significantly lower in the Class of 2014 (3.09 vs. 6.78, $p<0.0001$). Furthermore, the Class of 2014 suffered from worse physical health (16.97 vs. 15.04, $p=0.0096$) and subjective feelings (23.09 vs. 21.68, $p=0.0221$). Similarly, the Class of 2014 also complained of fewer leisure time activities (12.43 vs. 10.86, $p=0.0016$) and poorer quality social relationships (22.0 vs. 19.94, $p=0.0014$). Students in the Class of 2014 demonstrated significantly higher overall perceived stress at the beginning of the year (28.26 vs. 32.70, $p=0.0072$), but not before the final examination. Class of 2014 showed significantly more stress with graded exercises before the final examination (1.08 vs. 1.57, $p=0.0236$). However, the Class of 2014 reported lower stress levels regarding patient interactions, with significantly less stress at the start of the year interviewing patients (1.14 vs. 0.62, $p=0.0005$) and examining patients (1.16 vs. 0.78, $p=0.0123$); and less stress interacting with standardized patients at both times (0.95 vs. 0.48, $p=0.0013$; 0.80 vs. 0.43, $p=0.0201$). There was a significantly stronger sense of cohesion in the Class of 2013. Class of 2014 reported a lower sense of belonging before the final examination (23.5 vs. 20.23, $p=0.0196$). The feeling of morale was also lower in the Class of 2014 only at the beginning of the year (23.50 vs. 20.43, $p=0.0326$).
Conclusions: Results suggest that the revised, systems-based curriculum better prepared responding students for patient interaction, but has not yet served to reduce academic stress or instill a greater sense of cohesion. At the onset of the academic year, the Class of 2014 students were less satisfied with their personal lives, but within two months, the two classes did not differ significantly in overall biopsychosocial health. Future assessments of stress, cohesion, and quality of life should be repeated after the new curriculum has been well established.

Poster No. 2-50

MEDICAL STUDENT SUICIDAL IDEATION AND BEHAVIORS: RESULTS OF UCSD MEDICAL STUDENT SURVEY

Lead Author: Wendy Feng, M.D.
Co-Author(s): Christine Moutier, Shahrokh Golshan, Brittany Kirby, Tara McGuire, Nancy Downs, Bill Norcross, Pam Jong, Marc Norman, Sidney Zisook

SUMMARY:
Background: Physician depression and suicide are important issues which impact individuals, their families, patients, institutions and communities. In the United States over 300 physicians die by suicide each year. Although it is well known that medical school is a time of great stress and medical students belong to an age group where suicide is the third leading cause of death, less is known about suicide and associated risks among medical students than physicians in practice. This study reports the rates of depression, suicidal ideation, and other mental health variables associated with suicide among medical students at the University of California, San Diego (UCSD), and explores potential relationships between demographic and mental health variables and suicidal ideation.
Methods: Medical students enrolled at UCSD from 2009 to 2011 were surveyed using an online, anonymous survey. This survey contained the Physician Health Questionnaire (PHQ-9) to assess depression, as well as items to assess mental health variables, distressing emotional states, suicidal thoughts and behaviors, and the use of mental health treatment.
Results: 224 medical students completed the survey. Almost one in ten (9.8%) endorsed thoughts of suicide or self-harm during the two weeks prior to the survey. 9.4% of students met criteria for a major depressive episode based on survey results. Suicidal

ideation was strongly associated with current depression. Suicidal ideation was also associated with Latino ethnicity, distressing emotional states and a sense of failure/ worthlessness, anhedonia, and depressed mood.
Conclusions: This study shows high rates of depression and suicidal ideation in medical students responding to an anonymous online survey. The association between suicidal ideation and Latino ethnicity represents a new finding in the current literature on medical student depression and suicidality. Given higher rates of depression and burnout which have been reported in Latino medical students, this may constitute a group which merits further research and possibly special attention from school administrators.

Poster No. 2-51

MILITARY CULTURAL COMPETENCY

Lead Author: Eric Meyer II, M.D.

SUMMARY:
Purpose: Civilian providers are increasingly called upon to care for military patients. Efforts to improve military cultural competency has recently gained national attention. The author assessed military cultural competence in recent medical school graduates with varying degrees of military exposure: direct, indirect and none.
Method: Through broad consensus, the author designed a survey of military cultural competence (skills, attitudes, and knowledge) that was distributed in June, 2012 to 334 recent medical school graduates representing 218 medical schools. Cross-sectional and retrospective cohort analyses were utilized to determine current competencies while assessing for correlation between competence and military exposure.
Results: Of the 100 responses received, 72 met inclusion criteria. Overall, culturally competent skills were not as robust as attitudes, and military cultural knowledge was limited (61%). The assessment also revealed that respondents with direct military exposure were more likely to perceive the military as a culture, to assess patients for previous military service, and had higher military cultural knowledge than those without any military exposure (68% v 54%).
Conclusion: Recent medical school graduates are more likely to believe culture is important, but are less likely to assess culture. Graduates with previous direct military exposure have higher military cultural competence. Broader assessment of all medical school graduates, pre- and post-assessments of current military culture curricula, and correlation of patient outcomes to provider military cultural competence is needed to guide future work and to improve the quality of care provided to military patients and their families.

Poster No. 2-52

MIRTAZAPINE SUCCESSFULLY USED AS AN APPETITE STIMULANT IN PRIMARY REFUSAL TO EAT IN ADULTS WITH MODERATE INTELLECTUAL DISABILITY

Lead Author: Rupal Patel, M.B.B.S.
Co-Author(s): Dr Richard Hillier

SUMMARY:
Background: Current research has shown that Mirtazapine has been effectively used to stimulate appetite in the elderly (1). Here we present a case series of four patients with a Moderate Intellectual Disability who each presented with intractable refusal to eat over several months but who did not have overt symptoms of depression according to carers and family. Two of the four patients were being considered by Speech and Language Therapy professionals (SLT) for Percutaneous Endoscopic Gastrostomy (PEG) feeding in view of their significant weight loss and deteriorating physical health.
Results: Mirtazapine was introduced as an appetite stimulant (2), even though there were only minimal symptoms and signs which might have suggested the onset of a depressive episode. All patients experienced an improvement in their appetite within days of initiation of Mirtazapine, increasing their calorie and fluid intake and obviating the need for PEG feeding. During the following 3 months, the patients were also noted to develop an increased interest in activities, improved sleeping pattern and improved concentration.
Conclusion: These patients had very limited communication skills and there was little suggestion of depression at the time of assessment. The families and carers also did not feel that their relative was significantly depressed. Despite this, Mirtazapine had the two fold benefit of early appetite stimulation and, over the subsequent weeks, treating what in hindsight had been an underlying depressive episode. A lesson to be learnt is that primary refusal to eat, even in the absence of overt depressive symptoms may indicate an occult depressive episode in this patient group. We have shown that Mirtazapine can be an effective treatment in such cases and can prevent distressing medical intervention from having to be used.
References
1. Fox CB: Megestrol acetate and mirtazapine for the treatment of unplanned weight loss in the elderly. Pharmacotherapy 2009; 29(4): 383-97.
2. Laimer M: Effect of mirtazapine treatment on body composition and metabolism. J Clin Psychiatry 2006; 67(3): 421-4.

Poster No. 2-53

MOONLIGHTING BY PSYCHIATRY RESIDENTS: A SURVEY OF RESIDENTS AND TRAINING DIRECTORS

Lead Author: Lee A. Robinson, M.D.
Co-Author(s): Lauren M. Osborne, MD, Alan Hsu, MD

SUMMARY:
Moonlighting, the act of working a second job, is common among psychiatry residents, with as many as 50% of PGY-2 through PGY-4 engaged in the practice.(1) Yet few researchers have looked at the many questions inherent in its practice, including the effects of moonlighting on residents' education, training, lifestyle, and liability; on training programs' applicant recruitment; and on the provision of mental health care to underserved populations. The last comprehensive study, performed in 1991, showed that almost one-quarter of moonlighting residents were not supervised and 3% did not even have malpractice insurance; in addition, only 43% of training programs reported monitoring their residents' outside activities.(1) The motivations for and practice of moonlighting have changed drastically in the two decades since that study. The economic landscape for physicians in training has only become more bleak (2), and residency training as an experience has also been drastically altered, most notably by the 2003 ACGME 80-hour resident workweek limitation.(3) Additionally, the mental health care landscape is ever-changing, and the most recent numbers from the U.S. Department of Health and Human Services' Health Resources and Services Administration (HRSA) indicate a psychiatrist shortage of 5,804, affecting roughly 64,416,504 U.S. residents.(4) In many areas, this gap in provider coverage is filled with resident moonlighters. We aim to assess thoroughly the current prevalence of and driving factors behind moonlighting by general psychiatry residents. We will administer a survey to all ACGME-approved adult psychiatry residency programs in the U.S (both residents and program directors). The surveys have been created using the online software "SurveyMonkey." All results will be compiled by SurveyMonkey, de-identified from any IP addresses or names, and made available to us for data analysis.
References:
(1) Matthews KL, Ruedrich SL, Chan CH, Mohl PC. Moonlighting by psychiatric residents. Academic Psychiatry. 1998;22:170-180.
(2) Association of American Medical Colleges. Medical Student Education: Costs, Debt, and Loan Repayment Facts. AAMC Debt Fact Card. October 2011. https://www.aamc.org/download/152968/data/debtfactcard.pdf.

(3) Philibert I, Friedmann P, Williams WT. New requirements for resident duty hours. JAMA. 2002;288(9):1112–1114.
(4) Health Resources and Services Administration (HRSA). Designated Health Professional Shortage Areas (HPSA) Statistics. As of August 26, 2012. http://ersrs.hrsa.gov/ReportServer?/HGDW_Reports/BCD_HPSA/BCD_HPSA_SCR50_Smry&rs:Format=HTML3.2

Poster No. 2-54

NEURAL ACTIVITY DURING THE STOP SIGNAL TASK, A MEASURE OF INHIBITORY CONTROL, PREDICTS RELAPSE IN PATIENTS WITH COCAINE DEPENDENCY

Lead Author: Lan Chi Vo, B.S.
Co-Author(s): Jeffrey S. Spence, Michael D. Devous, Richard W. Briggs, Bryan Jester, Thomas S. Harris, Bryon Adinoff

SUMMARY:
Relapse is a prevalent phenomenon in addiction. Impaired inhibitory control is associated with relapse and is a significant predictor of cocaine use and treatment retention. Functional magnetic resonance imaging (fMRI) was used to examine the association between BOLD response during the Stop Signal Task (SST, a measure of inhibitory control) and time to relapse in cocaine-dependent patients. Forty-nine 2-4 weeks abstinent cocaine-dependent participants were assessed and then followed weekly for up to 26 weeks as outpatients. Relapse was defined as any use of cocaine during the follow up period. The patients were categorized into 27 relapsers (relapsed within 30 days) and 22 abstinents (did not relapse at 30 days). BOLD response during successful inhibition ("stop success") during SST was compared between groups ($z>2.3$, $p=0.05$). The left lateral occipital cortex had greater activation in the relapser group compared to abstinent group. Regions of interest were also identified using mean percent BOLD signal change in the combined patient group. Percent BOLD change values were calculated within the significantly activated voxels during stop success (voxel-based analysis, $P = 0.15$). Identified clusters, in additional to the left lateral occipital cortex, were used in discriminant analysis through the Statistical Product and Service Solutions software to predict group membership. The left lateral occipital cortex and the left lateral orbitofrontal cortex/anterior insular clusters resulted in 79.6% N-fold cross-validated prediction of group membership. These regions can be used to identify those at risk of relapse and offer insights into mechanisms of relapse. Funded by NIDA grant DA23203 and supported by the Department of Veterans Affairs

Poster No. 2-55

NEUROTOXIC EFFECTS OF THE OLDER ANTIPSYCHOTICS: SEVERAL MOLECULAR MECHANISMS OF ACTION

Lead Author: Stephen James Rush, M.D.
Co-Author(s): Henry A Nasrallah, MD

SUMMARY:
Background: Many studies over the past decade have reported neurotoxic effects of the first-generation antipsychotics (FGA) but not the second-generation antipsychotics (SGA). We present here a review of these studies including the multiple molecular mechanisms of neurotoxicity that have been reported in various animal, human and neuronal cell culture studies
Method: We used the key words of neurotoxicity, antipsychotics, dopamine antagonists, cytotoxicity and apoptosis, to identify English language publications related to this topic over the past decade.
Results: Here we summarize the findings of 15 published studies of the neurotoxic effects of various antipsychotics. 14/15 studies report neurotoxic effects of FGA, but not SGA, with multiple molecular pathways under two major mechanisms:
1. Apoptosis via the following mechanisms: Bcl-XS, p38, JNK, caspase-3, sigma-2 receptor binding, translocation of AIF.
2. Oxidative damage mediated by the following mechanisms: Increased DNA binding of NF-K?, upregulation of I?-B?, BAX, increased p53 expression, decrease in glutathione.
The SGA agents tested in those studies were not associated with neurotoxic effects. The details of these mechanisms will be presented on the poster.
Discussion: The above findings indicate that the older antipsychotic class, such as haloperidol and perphenazine, may have serious neurotoxic effects on neuronal tissue mediated by several mechanisms. These findings are consistent with some clinical neuroimaging reports of cortical atrophy in patients chronically treated with antipsychotics. The implications of these data for avoiding the use of FGA in Schizophrenia and other psychotic disorders are discussed.

Poster No. 2-56

ORGANIC AND FUNCTIONAL PSYCHOSIS: WHAT IS THE DIFFERENCE?

Lead Author: Anureet Walia, M.B.B.S.
Co-Author(s): Dr. Srinivas Dannaram, Dr. Madhuri Pulluri, Dr. Varun Monga, Dr. Ashish Sharma

SUMMARY:
Psychiatric manifestations of neurological disorders have always posed a diagnostic challenge for psychiatrists and neurologists. Lack of clear distinction in symptoms of organic and functional psychosis is the frequent cause for diagnostic confusion. In modern day medicine in spite of having access to advanced imaging techniques psychiatric history forms the basis for clinical diagnosis in psychiatry. We are presenting a case of 56 yrs. old female with schizoaffective disorder whose psychotic relapse was lately attributed to a CNS tumor. A 51 yrs. Old Caucasian lady with history of schizoaffective disorder was admitted to acute psychiatric setting through emergency room with psychosis. Few weeks into into treatment there was no change in psychosis and patient developed nausea, vomiting's, reduced responsiveness and aphasia. She was reassessed in emergency room and was diagnosed with a CNS tumor complicating in a midline shift of brain. Cases like this emphasize on importance of neuropsychiatric symptoms in distinguishing organic and functional pathologies of brain. From psychiatric viewpoint emphasis on longitudinal course of illness with change in nature of psychopathology can guide to differentiate organic and functional etiologies. In conclusion knowledge of evidence based psychopathological factors hinting organic etiology may be useful for psychiatrists working in clinical settings remote to neuroimaging.

Poster No. 2-57

PHYSICAL ACTIVITY IN ADOLESCENTS IS ASSOCIATED WITH INCREASED ACTIGRAPHIC TOTAL SLEEP TIME

Lead Author: Ashley Margo Covington, B.S.
Co-Author(s): Kammy Kaur BS, Sumeet Sandhu MD, Robert Miller BS, Edward Bixler PhD, Ravi Singareddy MD

SUMMARY:
Background: Current research indicates that physical activity (PA) may improve mood, anxiety and sleep disorders. However, studies in adolescents are limited by small sample size and/or use of only subjective sleep measures. In this study we examined the association between PA, mental disorders and objective sleep in 14 to 24 years olds.
Methods: The data were collected in a population-based sample of 14-21 years old who were originally enrolled for a larger study examining sleep and cardiometabolic factors. PA was assessed with a standard question that is used by the CDC, "During a typical week, on how many days were you physically active for a total of 60 minutes/day?" with response choices of 0-7 days". All subjects underwent a mini-neuropsychiatric diagnostic interview, 7 nights of actigraphy, one night of PSG and completed mood and sleep questionnaires.

Results: Among the 177 subjects, 35 (19.8%) were getting 60 minutes/day of PA for ? 6 days/week [HIGH-PA (HPA)] and 142 were getting ?5 days/week [Low-PA (LPA)]. Both groups were similar in age, gender and percentile BMI-for-age-and-gender. The prevalence of depression (lifetime and current), anxiety and drug/alcohol use disorders were similar in both groups. Adjusted (age, gender, percentile BMI-for-age-and-gender, depression and anxiety) actigraphic mean total sleep time over 7 nights was significantly higher in the HPA group (p=0.018).
Conclusion: Higher physical activity is independently associated with increased objective total sleep duration in adolescents. Possible explanation for this association will be discussed.
Support: American Foundation for Suicide Prevention (AFSP) grant to R. Singareddy; Additional Grant Citations: R01 HL 97615 and the CTSI UL1 RR033184, and C06 016499

Poster No. 2-58

PLASMA LEVELS OF IL-23 AND IL-17 BEFORE AND AFTER ANTIDEPRESSANT TREATMENT IN PATIENTS WITH MAJOR DEPRESSIVE DISORDER

Lead Author: Jae Won Kim, M.D.
Co-Author(s): Yong-Ku Kim, M.D, Ph.D

SUMMARY:
Objectives: Cytokines are believed to have a role in the pathophysiology of major depression. The alteration in levels of pro-inflammatory cytokines (interleukin 1? [IL-1?], IL-2, IL-6, IL-12, interferon ?, and tumor necrosis factor ?) in major depression supports the cytokine hypothesis of this illness. IL-23 and IL-17 are also pro-inflammatory cytokines, but few studies have focused on their role in major depression. This study investigated the potential role of the IL-23 and IL-17 axis in major depression.
Methods: Plasma IL-23 and IL-17 levels were measured in 26 major depressive disorder (MDD) patients before and after 6-week treatment with antidepressants; these levels were measured in 28 age- and sex-matched normal controls. Depression severity was assessed using the Hamilton Depression Rating Scale (HDRS). IL-23 and IL-17 plasma levels were estimated using quantitative enzyme-linked immune-sorbent assay.
Results: Pre-treatment plasma levels of IL-23 and IL-17 in MDD patients were not significantly different from those of normal controls. In MDD patients, IL-23 and IL-17 levels after 6 weeks of antidepressant treatment were not different from the baseline levels. There was no significant correlation between changes in the cytokine levels and changes in the HDRS scores representing the severity of depression.
Conclusion: The present study does not support the cytokine hypothesis of major depression. Replication and extension using a larger sample are required.

Poster No. 2-59

PREVALENCE AND RISK FACTORS FOR ADOLESCENT SUICIDE IN SOUTH KOREA

Lead Author: Aran Min
Co-Author(s): Yong Chon Park, MD, PhD, Eun young Jang, Chanhyun Jang, Inhwan Hwang

SUMMARY:
Objectives: According to data from Statistics Korea showed that 15,566 Koreans, or 42.6 every day, killed themselves in 2010, with suicide being the largest reason for deaths among adolescents. This study examines the prevalence and risk factors of the recently increasing rates of suicidal behaviors in adolescents.
Methods: This study enrolled 1227 two middle-school students in grade 7,8. Sociodemographic variables were collected to identify factors associated with current suicidal behaviors. The students were asked to complete Korean version of the Center for Epidemiologic Studies Depression Scale (CES-D), Adolescent Mental Health and Problem Behavior Screening Questionnaire-II, Statistical analyses including Chi-square test, uni-variate and multi-variate logistic regression analysis were done, respectively.
Results: The prevalence of suicide ideation during past 1 month was 6.1% in the total sample. The prevalence rates of male and female ideators were 3.6% and 7.2% respectively. Multi-variate logistic regression analysis revealed that the correlates for suicide attempt were female, moderate to severe depressive symptoms, low socioeconomic status, low self-esteem in the total sample.
Conclusions: The female, depressive symptoms, low socio-economic status, low self-esteem were strong predictors for suicide attempts. This suggest that early detection of treatment of high risk group is important and psychiatric approach and follow-up be needed for the prevention of suicide. Therefore, we are in urgent need of a public mental health network to prevent suicide and to detect and treat early mental health problems leading to suicide.

Poster No. 2-60

PROMOTING MENTAL HEALTH AWARENESS IN UNDERSERVED VIETNAMESE COMMUNITY: A RESIDENTS-INITIATED COMMUNITY OUTREACH PROGRAM UTILIZING MEDIA CHANNELS

Lead Author: Theresa Bui, D.O.

SUMMARY:
There is a high rate of undiagnosed and untreated psychiatric conditions across all ethnicity groups, especially in underserved minority communities such as the Vietnamese population, due to the lack of mental health awareness, cultural stigma, and poor access to care. In addition, language barrier presents another hindrance to the early recognition and treatment of mental illness in minority communities since the psychiatric history-taking is heavily dependent on the verbal communication between patients, their families, and the treating physicians. In an effort to decrease stigma and promote mental health awareness, the Vietnamese residents at University of Texas Health Science Center at Houston have initiated a community outreach project targeting specifically the Vietnamese community by hosting a live monthly talk show on a local Vietnamese radio station to discuss common psychiatric conditions and provide basic resources for those seeking help. The talk show consists of a brief presentation of a chosen topic after which listeners are invited to call in with questions and/or concerns.

Poster No. 2-61

PSYCH: TEACHING A PATIENT HAND-OFF MNEMONIC TO HELP PSYCHIATRIC RESIDENTS DECREASE COMMUNICATION ERROR

Lead Author: Maria Theresa Mariano, M.D.
Co-Author(s): Victoria Brooks, MD, Michael DiGiacomo, MD, Calvert Warren, MD

SUMMARY:
Introduction: The latest Joint Commission report cited miscommunication as one of the most frequently identified root causes for all sentinel events. Relative to the field of psychiatry, it was cited as the second most frequently identified root cause of suicide and restraint related events for the past eight years. The substantial adverse impact of miscommunication during transition-in-care has led to the emergence of discipline tailored hand-off mnemonics. A published systematic review of hand-off literature yielded mnemonics in various medical and surgical fields but none specific to psychiatry. Our study involved teaching residents a hand-off mnemonic to use at the psychiatric emergency room to help decrease communication error. Methods: Patient hand-offs were recorded and transcribed for twelve weeks. The initial four weeks (Time1) measured the baseline resident hand-off performance, and the succeeding four weeks (Time2) measured the natural hand-off performance change without any training (i.e. with experience). The residents were trained to use the PSYCH hand-off

mnemonic at the end of Time2. The mnemonic stands for: 1) Patient information, 2) Situation leading to the hospital/clinic visit, 3) Your assessment, 4) Critical Information, and 5) Hindrance to discharge/recovery. The final four weeks (Time3) measured the hand-off performance after the intervention. All de-identified transcriptions were analyzed after twelve weeks. The mean number of omissions and time spent on hand-off pre- and post-intervention was compared. Results: Without the intervention, there was a non-statistically significant decrease in omission (-0.03, p=0.335, effect size=0.49) and time (-1.2, p=0.920, effect size=0.05). After the intervention, there was a statistically significant decrease in omission (-0.48, p=0.049, effect size=0.8) and a non-statistically significant decrease in time (-0.63, p = 0.083, effect size=0.7). Discussion: Our study demonstrated that the PSYCH mnemonic resulted in a statistically significant decrease in content omissions, a widely noted hand-off communication error. Although the decrease in time after the training was not statistically significant, the effect size was 0.7 suggesting issues with power. The mnemonic likely contributed to the decrease in time by helping residents focus on pertinent information, consequently decreasing another type of hand-off error known as commission of information. This occurs when irrelevant information presented obscure key patient issues. Thus, the mnemonic helped decrease the two types of hand-off communication error which resulted in a more effective (i.e. less omission) and efficient (i.e. less time) transition-in-care. Although the PSYCH mnemonic was intended to be used at a psychiatric emergency room, the authors propose that this model can be adjusted to any psychiatric setting. Testing this mnemonic in various sites could help elucidate its adaptability in the field of psychiatry.

Poster No. 2-62

PSYCHIATRIC REHOSPITALIZATION AND FOLLOW-UP RATES IN DEPRESSED NON-GERIATRIC PATIENTS TREATED WITH ELECTROCONVULSIVE THERAPY

Lead Author: Brooke Rosen, B.A.
Co-Author(s): Simon Kung, MD; Maria Lapid, MD

SUMMARY:
Background: Remission rates for depression following electroconvulsive therapy (ECT) can be as high as 70-90% in controlled clinical trials (Rasmussen et al. 2009). In contrast, community studies with less stringent inclusion criteria report much lower remission rates, between 30-47% (Prudic et al. 2004). Furthermore, relapse and rehospitalization are significant but not always ascertained or reported. Certain factors, such as older age, are associated with better ECT response. To better understand these discrepancies in ECT outcomes, we examined another measure of efficacy – the relapse rate as measured by psychiatric rehospitalization in non-geriatric patients. We also examined patient follow-up rates at the tertiary care facility which provided ECT.
Methods: A retrospective chart review was conducted to identify patients between ages 18-65 who received ECT at Mayo Clinic from January 2007 to December 2011. Patients were diagnosed with a depressive disorder and received an acute course of 4-15 ECT sessions. It was then determined whether any follow-up at Mayo occurred, and if it had, the number of days to follow-up or rehospitalization was recorded. Time to rehospitalization was characterized by descriptive statistics and survival curves.
Results: Three hundred and thirty two patients met the inclusion criteria. The average age was 47.5±11.1 (SD) years, with 67% female and 28% out of state patients. The majority of patients (72%) had psychiatric follow-up at Mayo, and 68 were rehospitalized. Thus, the overall incidence of psychiatric rehospitalization was 20.5% (68/332). However, as outcomes were unknown for the 28% of patients who did not follow-up at Mayo, the rehospitalization rate can be considered 28% (68/239) for those who followed up at Mayo. The mean interval between last ECT session and rehospitalization was 249±319 (SD) days with 50% occurring within 100 days.
Conclusions/Discussion: Among the non-geriatric patients in this tertiary care setting, a high proportion of ECT patients (28%) had no follow-up at the institution that provided ECT, thus limiting our knowledge of their outcomes. Of those who followed up at the same institution, the rate of psychiatric rehospitalization is substantial (28%), half the time occurring within approximately 3 months. These statistics are important in putting into context ECT outcomes, and can be discussed with patients alongside the variable remission rates. In trying to determine which patients might respond optimally to ECT, future research can include prospective studies to reduce attrition due to lack of follow-up, and can compare variables such as age and duration of illness.

Poster No. 2-63

PSYCHOSOCIAL FACTORS RELATED TO REFERRAL TO DEPARTMENT OF PSYCHIATRY OF SUICIDE ATTEMPTERS VISITING EMERGENCY CENTER

Lead Author: Jung Woo Kwon
Co-Author(s): Professor Ko YH, Professor Yang JW

SUMMARY:
Objectives: A lots of studies have investigated the psychosocial characteristics of suicidal attempters in order to find efficient coping strategy and treatment intervention. The purpose of this study was to examine the psychosocial factors affecting the suicide attempt in psychiatric patients and to indentify risk factor related to non-referral to department of psychiatry of the suicidal attempters visiting emergency center.
Methods: Three hundred seventy seven patients who attempted suicide and admitted in the emergency room in 1 university hospitals from January 2008 to December 2011 were recruited in this study. Chrat review was conducted.
Results: The suicide attempters have psychosocial characteristics of female preponderance, high school in educational level, inoccupation, house makers in occupation. Most of attempters used the nonsevere methods such as drug ingestion or wrist cutting, and selected home as the place of attempt. The risk factors for non-referral were female gender, drunken status, current psychiatric medication history, family as a protector, home as the place of attempt. Especially, drunken status is most significant risk factor for non-referral.
Conclusions: The present study would be the early stage to explore the risk factor and protect factor of suicidal attempt.
This study suggests that the closed observation to potential-suicidal attempter in daily life is critical to protect against the fatal results due to suicidal attempts.

Poster No. 2-64

QUALITY OF LIFE IN ADHD

Lead Author: Matthew Goldenberg, D.O.
Co-Author(s): Rashi Agarwal, MD, Robert Perry, MD, Waguih William Ishak, MD

SUMMARY:
Across all medical specialties, quality of life has become an important measure of outcomes in both research and clinical settings. However, to date, there has not been a systematic review of the research relevant to quality of life in populations with adult attention deficit hyperactivity disorder. We approach quality of life in adult attention deficit hyperactivity disorder by answering the following questions: 1) What specific metrics are used to assess quality of life in adult attention deficit hyperactivity disorder? 2) What is the impact of adult attention deficit hyperactivity disorder on quality of life? 3) What effects do attention deficit hyperactivity disorder treatments have on quality of life? Searches of major electronic databases were conducted, and reference lists from the identified articles were searched for additional studies, with a focus on studies that utilized quality of life measures.

Poster No. 2-65

RECURRENT STROKES AS A MANIFESTATION OF CONVERSION DISORDER: A CASE REPORT

Lead Author: Abhishek Rai, M.D.
Co-Author(s): Dr. Punitha Vijayakumar

SUMMARY:

Psychiatric condition generaly elude diagnosis ,more if the patient presents with symptoms of medical emergencies such as TIA, Stroke,tumour , spinal cord injuries in which immediate management and releif from the symptoms becomes the priority. Conversion disorder is one such condition in which the patient presents with one or more neurological disorder.It is very often associated with some stress, emotional conflict or an underlying psychiatric disorder. We present the case of 52 year old female, with sifgnificant past medical history of chronic migraine and bipolar disorder. She presented to the Emergency room eight times in a period of 2 years. Each time with symptoms of left sided hemiparesis and dysarthria. Out of eight admission she received TPA therapy 2 times.Peculiarly the serial CTScans and MRI Scans did not reveal anysigns of stroke.The subsequent neurological examination for left sided weakness and dysatrhia were not compliant with the reporting symptoms. The history of chronic stable migraine was lookd in and possibilty of complicated migraine was ruled out. After 8 hospital visits and two rounds of TPA the possibility of some psychiatric condition most probably Conversion disorder was made and hence psychiatry was consulted. After taking a detailed psychiatric history it was found that she had been a victim of gang rape at age 16 and to worsen the affair her mother and grandmother blamed her for allowing it to happen.Her mother and grandmother were recorded to be suffering fron Bipolar disorder which was never treated all their life.So she has been under a lot of emotionol stress all her teenage and most of her adult hood till she got married. Due to these tensed situation patient spent most of the time with her grandfather who interestingly had multiple stroke attacks and died of stroke 3 years back which is around the time when her symptoms first manifested. As a matter of fact TPA treatment predisposes a patient to the complication of bleeding and puts him/her at risk of stroke.Hence this case higlights that the underdiagnosis of conversion disorder can lead to severe iatrogenic complications.Apart from health concerns repeated hospitalisation levy mental and financial burden on the patient and the families. This case and other like it demands attention and recognition of the medical fraternity ,emergency condition do need aggressive management but at the same time keeping eye out for psychitric condition can do much good.

Poster No. 2-66

RESIDENT PHYSICIAN STRESS AND COPING SKILLS

Lead Author: Susan Tansil, M.D.
Co-Author(s): Lisa J. Cohen, Ph.D.

SUMMARY:

Residency training is acknowledged to be a time of significant psychological stress for its participants, though there is little known about the coping skills employed by residents as they mature as physicians Studies have shown that a number of factors predispose interns to depressive episodes, some specific to the individual and present prior to internship (female sex, US medical education, difficult early family environment, history of major depression, lower baseline depressive symptom score, higher neuroticism), some associated with the individual's milieu during training (increased work hours, perceived medical errors, stressful live events). However, little is shown to be known about which coping skills are employed by interns and residents when faced with stressful situations. We hypothesize that internship is the most stressful period of residency, and during the intern year, housestaff employ less productive and mature coping skills.

In this this study, we use web-based and paper surveys distributed to a projected total of 125 medical students, interns and residents, to investigate self-perceived stress, tactics for coping with stress and personality characteristics. The survey consists of brief introductory text, followed by 126 questions inclusive of the participants' gender, ethnicity, speciality, year in training, and practice location, and questions from the Perceived Stress Scale, the Coping Styles Questionnaire and the Personality Diagnostic Questionnaire. Participants were recruited from online fora for residents and medical students, email distribution to housestaff in other institutions, and in person to various residency programs at the principal investigator's institution. In the preliminary analysis (n=26), junior residents endorsed marginally more negative statements about stress (e.g., felt nervous and stressed) than did senior residents (p=.076) but did not differ on the amount of positive statements. There were also sex differences in that male residents made more positive statements about their perceived ability to cope with stress (e.g., felt things were going your way) (p=.046) than female residents but there were no sex differences in negative statements. There was no difference across gender or year of training in overall number of adaptive or maladaptive coping strategies used, but there were group differences in the type of coping strategies used. Our preliminary data shows that our hypothesis is likely correct--junior residents report more negative statements about stress than senior residents. These results, to be substantiated and elaborated with the analysis of the full sample, give us more of the picture of the emotional experience of residency. Further knowledge of how it impacts developing physicians through their training and will help give academic programs areas of focus to improve ways young physicians cope with stress and improve overall physician well-being.

Poster No. 2-67

RETROSPECTIVE DATA ANALYSIS OF REAL-LIFE RATES OF RESPONSE TO DIFFERENT MEDICATION CLASSES IN PATIENT WITH BIPOLAR MANIC/MIXED EPISODE

Lead Author: Magdalena Szklarska-imiolek, M.D.
Co-Author(s): Koppolu SS, Stolberg S, Vaughan B, Linares F, Cohen L, Galynker I

SUMMARY:

Introduction: Standard pharmacological treatment for bipolar manic or mixed episodes involves the initiation of mood stabilizer (MSs) plus an antipsychotic. APA recommends second generation antipsychotics (SGAs) over first generation antipsychotics (FGAs) because of their higher effectiveness and lack of EPS. The extent to which real-life practice conforms to this recommendation is unclear. In this context we assessed the rate of response to FGAs, SGAs, and MSs in manic patients admitted to inpatient psychiatric units in a real life hospital setting.
Method: A retrospective chart review was done using a sample of patients who were discharged from an Inpatient Unit after being admitted for Bipolar disorder, featuring a mixed or manic episode. Two clinical scales, Clinician Administered Rating Scale for Mania (CARS-M) and Clinical Global Impressions for Illness Severity (CGI-S, CGI-I), were used to rate the severity of illness. The charts were rated by 3 physicians and least difference criteria were used to achieve a consensus score for each item on the two scales. In addition to the illness severity information, other clinical markers (medications prescribed, p.r.n requirement, seclusions and drug abuse history) as well as demographic data were extracted.
Results: Patients discharged on SGA's compared to those who were not on SGA's, had statistically significant lower CARS-M scores on admission (p= 0.04). Over the length of the hospital stay patients on FGAs took marginally longer to achieve maximal response than patients who were not on FGAs (p=0.074). In contrast, the patients on SGAs took less time to respond fully to treatment than those who were not (p=0.034). Likewise, patients

on MSs took marginally less time to reach maximal response than those who were not on MSs. (p=0.063).
Discussion: Based on retrospective chart reviews of inpatients admitted with acute mania using the CARS-M scale, it appears that patients admitted on SGAs are not as severely ill as those on FGAs, and respond faster to treatment. This finding would be consistent with clinicians' practice of using FGAs to treat more severely ill patients.

Poster No. 2-68

SLEEP PROBLEMS IN CHILDREN: TRAINING, PRACTICES, AND ATTITUDES OF CHILD PSYCHIATRY RESIDENTS

Lead Author: Ujjwal P. Ramtekkar, M.D.
Co-Author(s): Sandra DeJong, MD

SUMMARY:
Objective: To assess knowledge, skills and attitudes of child psychiatry residents towards sleep disorders in pediatric patients presenting with primary psychiatric complaints. This survey was intended to act as a needs assessment for development of a sleep-disorders model curriculum for use during child psychiatry training.
Methods: A convenience sample from nine geographically diverse child psychiatry residency programs (n=78) was used for the study. After obtaining training directors' permission and IRB expedited approval (Children's Hospital, Boston), a web-based (REDCap®) link for a brief survey was sent via email... The survey consisted of 12 items broadly assessing resident's perception of training; prior exposure and comfort level in identification and management of sleep problems in the child psychiatric population; importance of sleep in psychiatric practice; and interest in a formal curriculum for learning about the topic. The responses were collected on a Likert scale ranging from 1 to 7 with higher score for favorable response. Data were collected without any identifying information and analyzed using IBM-SPSS®v19.
Results: A total of 47 residents (60%) completed the survey. About 78% responded that comorbid sleep problems are present in >25% of psychiatric patients. However, less than 25% of residents responded favorably about being comfortable diagnosing sleep problems. The majority of residents (93.5%) indicated that sleep problems result in functional impairment in psychiatric patients, yet; only 60% reported having changed psychotropic medication management based on presence of sleep problems. Although 68% indicated the presence of sleep clinic or lab at their institution, only 55% of residents had referred patients for sleep study. Of those, only 8% reported being knowledgeable about interpreting the sleep study reports and less than 12% indicated being comfortable initiating treatments based on sleep study. Only 21% expressed satisfaction with formal education in sleep problems during current training and 85% residents expressed interest in learning more about the topic.
Conclusions: The results indicated understanding by residents of comorbid sleep problems and the bidirectional relationship between sleep and psychiatric diagnoses. However, residents expressed lack of formal training or comfort level in management of these problems. Although different forms of sleep disturbances are an integral part of several psychiatric disorders, the formal education in the evaluation and treatment of sleep problems appears to be lacking in the current child psychiatry didactic curriculum. A formal curriculum to teach the various aspects of sleep disorders in child psychiatry training would meet an important need.

Poster No. 2-69

SOCIAL MEDIA ENGAGEMENT AND PORTRAYAL OF ANTIDEPRESSANT MEDICATION

Lead Author: Arshya Vahabzadeh, M.D.
Co-Author(s): Justine Wittenauer MD, David Goldsmith MD, Ann Schwartz MD

SUMMARY:
Introduction: Antidepressant medication is an important component in the treatment of depressive disorders. Stigma and knowledge of antidepressant medication mediates the reporting of depressive symptoms, and decisions regarding medication commencement and maintenance. Patients are increasingly accessing internet resources to obtain information regarding medications. Unfortunately such information is of generally poor quality, with little editorial oversight. Social media websites are increasingly noted as a major source of information, but are some of the least regulated information sources. Very little research has examined the portrayal of medical conditions on these websites. Content on Youtube.com, the most accessed social media website, has been noted to be highly variable and potentially stigmatizing for a range of neurological and medical conditions. The study seeks to explore the depiction of antidepressant medication in Youtube.com video media. It also aims to understand how the portrayal of antidepressants may mediate viewer engagement through comments, likes, and dislikes.
Method: Videos were accessed on the internet website Youtube.com. The Youtube.com library was searched using the terms "antidepressant" and "antidepressants" with the use of the "OR" operand. The results obtained were viewed in the default setting arranging videos based on search term relevance. The top 90 video results were selected further analysis.
Results: Data analysis of the 90 videos demonstrated that over 83% of videos were markedly negative in their depiction of antidepressant medication. Negative portrayal of antidepressant medication was associated with a higher result on our search rankings (p=0.005), a greater number of video views (p=0.026), and more viewer comments (p=0.011) and "likes" (p=0.008). In fact, negative portrayal of antidepressants in a video was associated with a 24 fold increase in video viewings.
Conclusion: The growing influence of social media in communication, social relationships, information gathering, and decision-making has been widely recognized. Our results are, to our knowledge, the first to explore the social media portrayal of antidepressant medication. This study shows antidepressant medications are consistently portrayed as ineffective, dangerous, and potentially fatal. More worryingly, media that emphasizes these negative viewpoints is more accessible (by virtue of higher search rankings), more highly viewed, more liked, and demonstrates greater engagement of viewers. Evidence-based content regarding antidepressants is not only small in numerical quantity, but when available, is also marginalized. This may suggest that to target stigma through social media, we must not only create content, but also utilize strategies to enhance user engagement and interest. This may involve a level of social media expertise and digital innovation that is seldom available to mental health organizations and other stakeholders.

Poster No. 2-70

SUBANESTHETIC KETAMINE IN DEPRESSED VETERANS WITH A HISTORY OF ALCOHOL DEPENDENCE

Lead Author: Robert Glenn, M.D.

Co-Author(s): Erin Seery, MD, Dennis Orwat, MD, Robert Malcolm, MD, Mark Hamner, MD

SUMMARY:

It is has been documented that intravenous Ketamine can be used as a rapid acting treatment for treatment-refractory depression (Zarate et al., 2006, Diazgranados et al., 2010). There is also evidence of a more robust anti-depressant effect from Ketamine in patients with a family history of alcohol dependence (Phelps et al., 2009). However, no study to our knowledge has investigated the effects of Ketamine in the acutely depressed population with comorbid alcohol dependence. Given the frequent comorbidity of alcohol dependence and depression, this is an important area with direct clinical implications. Participants were treatment-seeking acutely depressed individuals with comorbid diagnoses of alcohol dependence (n=4). Participants were infused with subanesthetic intravenous Ketamine (0.5mg/kg) over 40 minutes. All participants were monitored in an inpatient psychiatric ward and serial measurements of depression and alcohol craving, including HAM-D, were obtained over a 4-day period. A repeated measures analysis of variance framework was utilized to examine linear changes (over time) in HAM-D scores following infusion of Ketamine. There was a significant decrease in HAM-D scores following administration of ketamine ($p<0.01$). At baseline the mean HAM-D score was 22.50 (95% CI 19.36, 25.64). At 240 minutes post-infusion, there was a decrease to 10 (3.18, 16.82). By Day 1 post-infusion the mean HAM-D score had decreased to 2.75 (.41, 5.09). The findings from this study, although preliminary, add to the current knowledge of treatment in depression and alcohol dependence. Data collection is ongoing and the full sample will be included in final analyses. Acknowledgment: NIDA grant R25DA020537 (PIs: Back & Brady).

Poster No. 2-71

SUICIDE RISK SCREENING IN MEDICAL OUTPATIENTS

Lead Author: Sunju Kim, M.D.

Co-Author(s): Jin Wook Jung, Seung Young Oh, Won Sub Kang, Jong-Woo Paik

SUMMARY:

Objectives: Among the OECD member countries, suicide rate in Korea ranks first. It has been reported that, those who about to commit suicide tend to meet with a medical care provider several weeks before the act. Unfortunately, evaluation of suicide risk for patients is not being properly assessed in medical outpatients. To prevent suicide, early proper assessment of suicidality and management by medical care provider will be needed. The current study was designed to assess suicide risk of medical outpatients.

Method: From November 8th to 12th 2010, dispatched investigators conducted questionnaire surveys in a university hospital outpatients clinic (internal medicine, family medicine, department of neurology) and a community health center. Surveys were performed consecutively with informed consent. We investigated the following four aspects of medical health service users such as presence of suicidal ideation during the past year, or plan, or experiences of suicidal attempts in lifetime, severity of depression, whether consultation was voluntarily sought or recommended by a physician, and whether the responder participated in a suicide prevention program. Severity of depression was measured by Center for Epidemiological Studies-Depression Scale (CESD) and cutoff point was 16.

Result: Of 243 surveys conducted, 150 were carried out in the department of internal medicine, 47 in family medicine, 17 in neurology and 28 in others. Of 243 participants, 45.7% were men, and 54.3% were women. Among medical outpatients, 23% (n=55) had suicidal ideation, 13.2% (n=31) had suicidal plan, and 7.4% (n=17) had experience of suicidal attempt. The mean CESD score estimation of depressed level of the medical patients without suicidal ideation was 6.49. While that of the medical patients with suicidal ideation, plan, or suicidal attempt was 11.42, 10.65, and 12.71 respectively. Among medical patients with suicidal ideation, plan, and attempt, the percentage of those suspicious of depression was 29.1% (n=16), 32.3% (n=10), 41.2% (n=7), respectively. Eight (44.43%) people had visited a medical facility among 17 patients who had an suicidal attempt. But only one of the eight had been recommended to visit mental health professionals.

Conclusion: A significant percentage (23%) of medical outpatients had experienced suicidal ideation. Also suicide-related behaviors were associated with depression. However, even those visiting hospital upon suicidal attempt did not proper support or aftercare. It is essential to develop a systemized program for early detection of those at high risk of suicide, proper referral system as well as suicidal prevention education, given by a trained medical provider.

Reference: JW Jung, SH Lee, JE Kim, JY Cheon, JW Paik, DW Seo, A study on the development of a suicide prevention system in medical practice, Ministry of health and welfare, Korea institute for health and social affairs

Poster No. 2-72

SURVEY OF REFLECTIVE PRACTICE

Lead Author: Venkata B. Kolli, M.B.B.S.

Co-Author(s): Dr David Dodwell, Dr Vinay Rao

SUMMARY:

Background: As medical practitioners often face challenging or unclear situations: these events (via reflection) form one of the key basis for experiential learning. The UK Royal College of Psychiatrists recognizes the importance of reflective practice and encourages it to be part of the learning portfolio; in the new revalidation procedures, the UK General Medical Council requires evidence of reflection in consultants' practice. Even though it is widely referred to, attitudes and views on using reflective practice are not known.

Aim: To explore attitudes and views on Reflective Practice among trainees and consultants in Psychiatry.

Method: Following approval from the Cambridgeshire and Peterborough Foundation Trust Research and Development committee as a service evaluation project, a pilot electronic survey was sent to 6 participants. The survey was modified basing on their feedback and was then sent to all trainees and consultants in Psychiatry working for the Trust.

Results: The response rate was 45.5% with 39 consultants and 27 psychiatric trainees. 70% (n = 29/41) considered that their theoretical skills had improved with Reflective Practice, and whereas 78% (32/41) reported that it had improved their clinical skills. 78% (32/41) stated that Reflective Practice had improved their overall training and 88% (36/41) perceived it to improve their interaction with colleagues and patients. There are many forms of Reflective Practice: 'Thinking about an event after it had occurred on their own' and 'Discussing informally with a colleague' were the most popular means. 82% of trainees were encouraged by their supervisors to do reflective practice. Even though Reflective practice was being used by majority of the participants, 42% of respondents wanted more training on using it.

Conclusion: Reflective Practice is perceived to be beneficial in both training and whilst practicing by psychiatrists. Training on using it effectively could enhance its utility.

Poster No. 2-73

TEACHING THE OUTLINE FOR CULTURAL FORMULATION THROUGH THE CULTURAL FORMULATION INTERVIEW: THE COLUMBIA EXPERIENCE

Lead Author: Ravi DeSilva, M.A., M.D.

Co-Author(s): Roberto Lewis Fernandez, MD, MTS, Neil Aggarwal, MD. MBA, MA

SUMMARY:

The Cultural Formulation Interview (CFI) is the latest evolution in cultural psychiatry that stems from the Outline for Cultural Formulation (OCF) and this new tool will be incorporated into DSM-5. The CFI's questions emphasize four domains: 1.) Cultural Definition of the Problem, 2.) Cultural Perceptions of Cause, Context, and Support, 3.) Cultural Factors Affecting Treatment Self Coping & Past Help Seeking, and 4.) Current Help Seeking. Using the experience of and data derived from conducting the CFI International Field Trial for DSM-5 and the CFI's four domain model, Columbia University's Department of Psychiatry and the Center for Excellence in Cultural Competence at New York State Psychiatric Institute developed a new cultural psychiatry curriculum for its psychiatry residents. This curriculum begins by tracing the lineage of psychiatric and anthropologic thought leading to the creation of the OCF and ultimately the CFI. The course then seeks to further residents' understanding of the four domains through the experiential learning model employing focused use of the CFI domains in clinical work. This new Columbia curriculum is thus a novel bridge connecting historical and current social science theory, ACGME's core competency requirements for cultural understanding in resident education, and vanguard psychiatric practices that are the newest cultural psychiatry initiatives found in DSM-5.

Poster No. 2-74

THE JOY INITIATIVE: A STUDY OF POSITIVE PSYCHIATRY AND MINDFULNESS TRAINING ON LEVELS OF LIFE-SATISFACTION AND WELLNESS IN MEDICAL STUDENTS

Lead Author: Miko Rose, M.D.

Co-Author(s): Alyse Ley, DO (PI), Dale D'Mello, MD, Daniel Cote, DO, Jeffrey Frey, DO, Zachary Gleeson, DO, Albert Aniskiewicz, PhD, Christopher Giuliano, PhD, Celia Guro, PhD

SUMMARY:

Introduction: Professional burnout is observed in 50% of medical students during the course of medical education. Suicidal ideation occurs in an estimated 11%. Mindfulness meditation has been demonstrated to decrease symptoms of anxiety. Cognitive Behavioral Therapy and Positive Psychology exercises have proven effective in decreasing depression symptoms as well as improving positive attitude and happiness. Purpose: The goal of this study was to examine the efficacy of elements of mindfulness meditation, positive psychology and cognitive behavioral therapy on life satisfaction, happiness, and overall well-being. Methods: Resident physicians created and taught 60-minute weekly classes for 10 weeks at the Michigan State University College of Osteopathic Medicine campus. Half of each class was devoted to mindfulness training, and the other half of each session was devoted to Cognitive Behavioral Therapy. The Cognitive Behavioral Therapy individual weekly topics included: selecting and practicing joyful activities, identifying one's core strengths and virtues, compassion and focusing on gratitude. The mindfulness meditation topics included: mindful eating, breath/body mindfulness, compassion, mindful walking, and mindfulness to sound. Each class session concluded with brief homework assignments that reinforced the week's theme. The Beck Anxiety Inventory (BAI), The Fordyce Happiness Scale, and the Authentic Happiness Inventory were used to assess the impact of the intervention. These surveys were administered at the outset, midpoint and termination of the 10-weeks intervention. Control data was collected from medical students who did not participate in the class sessions. The survey data was analyzed using SPSS software. Results: Fourteen students participated in the Joy Initiative project. The mean BAI scores declined from 13.8 (SD=8.1) to 6.8 (SD=6.8). ANOVA F=4.77, df=1, p=0.04. The mean BAI score for the 79 students in the control group was 9.7 (SD=7.5). At the conclusion of the 10-weeks intervention the mean Authentic Happiness Scale Score of the intervention group was 87 (SD=13.9) vs the Control Group 75 (SD=12.3); ANOVA 8.8, df=1, p=0.004. The enhancement in Authentic Happiness Scale Scores was only observed in the cohort of women medical students, and not among men; ANOVA F=8.5, df=1, p=0.015. Conclusion: A small group of medical students who participated in a wellness initiative experienced a substantial reduction in levels of anxiety. Only the women students enjoyed an appreciable increase in levels of happiness. The students acquired skills and strategies that could be utilized through the remainder of their careers and employed in the care of their patients.

Poster No. 2-75

TRAVEL PSYCHIATRY: TODAY'S NEED

Lead Author: Mona Thapa, M.D.

Co-Author(s): William B. Lawson, MD, PhD

SUMMARY:

Introduction: Travel medicine is the branch of medicine that deals with the prevention and management of health problems of international travelers. A study of travelers to developing countries and Eastern Europe revealed that more than one third had some type of illness during their trip. Long journey to remote and strange environments, increases the psychological stresses and can produce a wide range of psychiatric, behavioral, and neurologic issues in travelers. Various physicians working in travel medicine clinics have emphasized that mental illness is the most difficult to address.

Methodology: Review using pubmed of published articles on Travel medicine in different peer reviewed journals and peer reviewed medical websites were done. The focus of the review was mental illness, psychological issues and needs while travelling.

Results: The following themes emerged from the review: Mental illness and psychological needs are very important aspect of travel medicine. New onset of mental illness and exacerbation of preexisting condition in travelers are key issues for treatment. Predisposing factors for new onset mental stress include cultural conflicts. People traveling to Asia with a desire to obtain spiritual teaching experience may be disappointing as it may be their first genuine exposure to religion outside their familiar cultural and religious background. Volunteers to disaster areas are also prone to psychological distress by viewing life threatening events and, seeing disturbing sights, such as severe poverty. Elderly travelers and travelers with memory or cognitive deficits may be more prone to develop a poor stress reaction or frank delirium. A study on missionary personnel from UK showed 60% of medical evacuation for health reason was due to psychiatric illness.

Conclusion: More research is needed in travel psychiatry as mental illness or psychological decompensation is quite high with international travel . There is a rising need of culturally well versed travel mental health professionals to deal with the psychiatric needs among the travelers.

References:

1.Bruni M, Steffen R. Impact of travel-related health impairments. J Trav Med. 1997;4:61–4.

2.Peppiat R, Byass P. A survey of the health of British missionaries. Br J Gen Pract. 1991;41(345): 159–162.

3. Hartjes LB, Baumann LC, Henriques JB. Travel health risk perceptions and prevention behaviors of US study abroad students. J Travel Med. 2009 Sep–Oct;16(5):338–43.

4.http://wwwnc.cdc.gov/travel/yellowbook/2012/chapter-2-the-pre-travel-consultation/mental-health-and-travel.htm

5.Fagenholz PJ, Murray AF, Gutman JA, Findley JK, Harris NS. New-onset anxiety disorders at high altitude. Wilderness Environ Med. 2007 Winter;18(4):312–6.

Poster No. 2-76

USING A POVERTY SIMULATION EXPERIENCE TO PROMOTE EMPATHY AND UNDERSTANDING OF POVERTY AMONG PHYSICIANS-IN-TRAINING

Lead Author: Trinadha Pilla, M.D.
Co-Author(s): Malathi Pilla, MD; Aghaegbulam Uga, MD. Jacqueline Ferguson, MA; Ross D. Silverman, JD/MPH; Andrew Varney, MD; Karen Broquet, MD; Jeffrey I. Bennett, MD.

SUMMARY:
Introduction: During their training residents can develop an emphasis on objectivity leading to the potential development of "elitism." This attribute may result in decreased empathy. While altruism is a desired vision for many physicians entering medicine profession, they can however get distracted from their initial idealism. About 60% of medical students entering medical school in the United States are from affluent backgrounds within the upper quintile of income. They may find it difficult to understand the hardships faced by patients living in poverty comprising 15% of the population. Thus, one goal of training is enhancing a resident's ability to empathize with patients of different backgrounds. This study was undertaken to gauge the effectiveness of such an intervention.
Methods: Resident physicians at Southern Illinois University School of Medicine participated in an interactive poverty simulation experience during an annual retreat designed to help residents be sensitized to the challenges of living in poverty and develop a sense of empathy toward people living in poverty. A total of 37 residents participated. Pre- and post-simulation surveys were completed which contained empathy items from a validated scale and 18 items regarding perceptions about poverty.
Results: The 18-item questionnaire showed that residents gained a greater appreciation and understanding of what it is like to live in poverty. Categorical first-year residents scores dropped from a pre-survey mean of 2.95 to a post-survey mean of 2.65 (t = 4.04; df = 233; p ? 0.0001), and third-year residents dropped from a pre-survey mean of 2.74 to a post-survey mean of 2.49 (t = 3.76; df = 251; p = 0.0002); the scores of preliminary first-year residents also reduced, but they were not statistically significant. Similar trends were noted with the Empathy Survey, which was scaled in the opposite direction of the 18-item questionnaire. Categorical first-year residents saw an increase in empathy, as indicated by increased mean scores from 3.4 to 3.6 (t = -2.21; df = 51; p = 0.0316); third-year residents also saw an increase in their mean scores from 3.4 to 3.6 (t = -3.1; df = 51; p = 0.0031). Again, preliminary residents did not have statistically different means for pre- versus post-surveys.
Conclusions: The half-day simulation had a positive impact and significantly increased the residents understanding of and empathy for people in poverty. Empathy is the foundation of a physician patient relationship and it should frame the skills in our medical profession. Medical educators should take a note of the likely decline in empathy in their residents as early as the first year and adopt innovative teaching tools to promote the development of empathy and reduce its potential further decline. Teaching empathy among resident physician through innovative methods such as Poverty Simulation should be a part of the curriculum in a resident physician training.

Poster No. 2-77

WHAT ARE THE INGREDIENTS TO COMPASSION FATIGUE? A SYSTEMATIC REVIEW

Lead Author: Connie Barko, M.D.
Co-Author(s): Robert Perito, MD

SUMMARY:
Introduction: The concept of compassion fatigue has continued to evolve since its inception to encompass emotional exhaustion experienced by healthcare providers. A more recent understanding of compassion fatigue is a constellation of symptoms that results from working and identifying with critically ill patients and vicariously living through the victims' experiences. In the light of increased burden of trauma victims from current military combat operations, we attempted a descriptive systematic review of the current literature to better elucidate different factors that impact compassion fatigue.
Methods: Using Medline database, we searched keywords "compassion fatigue," "compassion satisfaction," or "counter-transference," and "physician." We filtered for full text articles published from 2007 to present.
Results: The database yielded fifty-nine articles, with secondary review for relevant content yielding thirteen articles. Literature showed increased compassion fatigue in healthcare providers who regularly interact with critically ill and dying patients. These included intensive care and cancer nurses, surgeons, pediatric palliative care, emergency medicine physicians, and providers who worked with disaster victims. Two articles addressed factors surrounding compassion fatigue in the military. Several factors were noted to shape compassion fatigue including the length of exposure, level of empathy, coping skills, resiliency, operating under demanding conditions, and dissatisfaction with one's career. This was shown to manifest in physiologic, cognitive, and interpersonal symptoms. In contrast, protective factors included providers who had a unified concept of self, balanced perception of work versus personal life, and experienced integrated deaths early in life that were normalized and dealt with openly.
Discussion: Our research identified several predisposing and perpetuating factors. The overall theme suggested that it is more likely to occur in response to the duration and intensity of exposure in the absence of protective factors. These protective factors were identified and surrounded the concept of self. A noteworthy observation from this research suggests that exacerbating factors may be reduced and protective factors could potentially be enhanced. These would suggest that a systemic resiliency program could have the potential of reducing provider's compassion fatigue.
Conclusions: Compassion fatigue is more prevalent among health care providers who regularly work with critically ill patients. It has the potential to lead to burnout, impacting patient care. Personal, professional, and organizational strategies can be put in place to normalize death and dying, increase caregiver resiliency, and enhance coping mechanisms. Further research could investigate how compassion fatigue has impacted military physicians, who have had increased load of trauma patients since the beginning of current war campaigns.

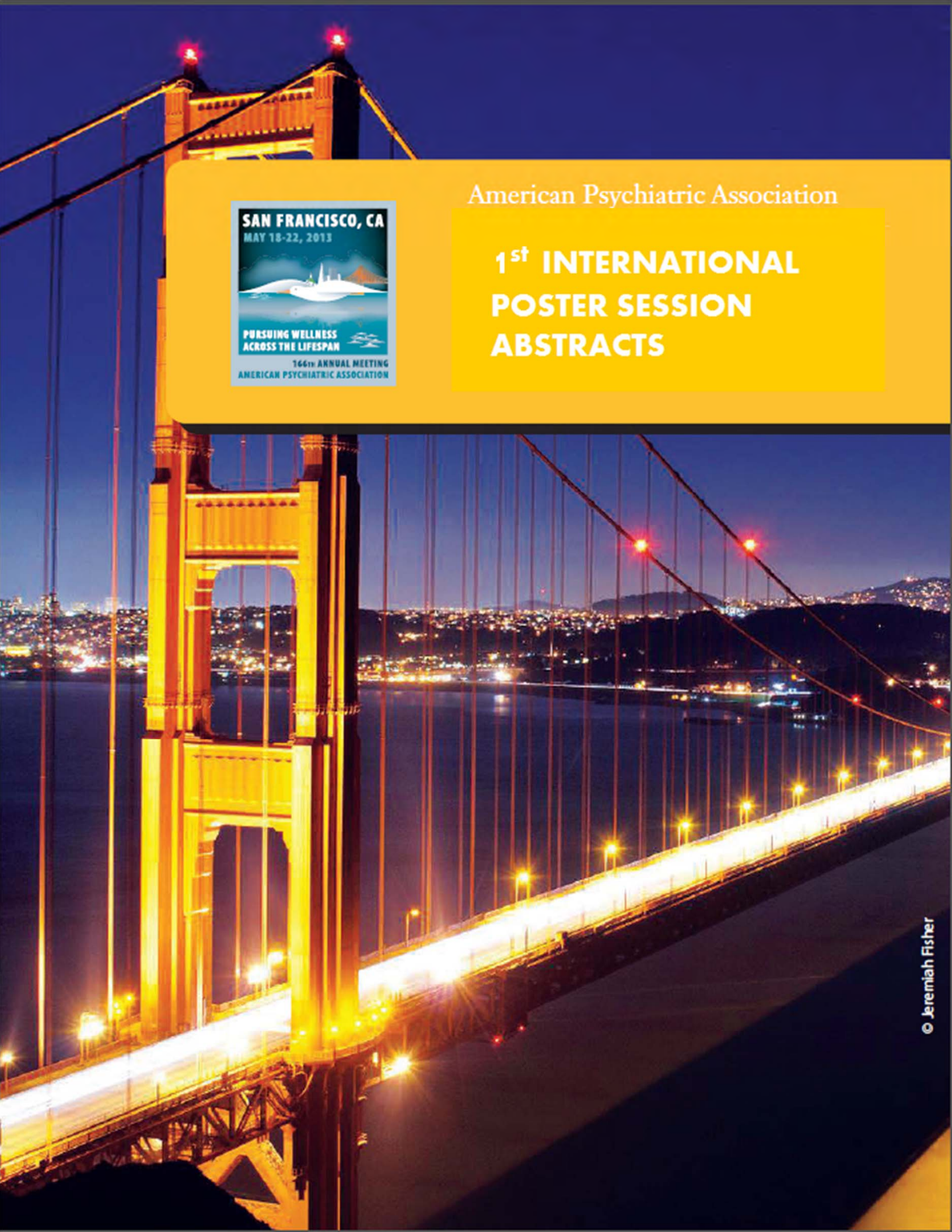
Poster No. 2-78

TINNITUS RESULTING IN SUICIDAL PLAN

Lead Author: Jarred Andrew Hagan, D.O.
Co-Author(s): Brett J. Schneider M.D.

SUMMARY:
Introduction: Tinnitus, the perception of a sound with no known mechanical or external causes, has a point prevalence of 17% in the general population. Up to 5% of these cases may result in severe psychosocial complications. We present a case of new onset tinnitus leading to suicidal plan.
Case: Patient is 46 yo married Hispanic male with 2 children without any prior psychiatric history who presented after a two month struggle with intractable tinnitus. He had initially seen his primary care doctor and subsequently had a negative medical evaluation by otolaryngology. During this period, the tinnitus impacted his mood, sleep and his ability to perform his day-to-day tasks. He informed his physician regarding suicidal thoughts prompting psychiatric evaluation. During the interim period, he had been started on magnesium sulfide 400mg BID with the diagnosis of idiopathic tinnitus. He revealed a suicidal plan to drive off of a specific bridge in the community. His intent was conditioned upon the relief or sustainment of his tinnitus symptoms. Fortunately, the empirical magnesium treatment resulted in resolution of his tinnitus. During his psychiatric

evaluation, his mood had improved significantly and denied active suicidal thoughts, plan or intent.
Conclusion: A significant proportion of tinnitus patients may experience severe psychological distress. The severity of such reactive distress should not be underestimated as illustrated by this case. Clinicians who treat patients with tinnitus should be aware of this concern and have a low threshold for screening for psychological distress.


SAN FRANCISCO, CA
MAY 18-22, 2013
PURSUING WELLNESS ACROSS THE LIFESPAN
166TH ANNUAL MEETING
AMERICAN PSYCHIATRIC ASSOCIATION
American Psychiatric Association
1st INTERNATIONAL POSTER SESSION ABSTRACTS
© Jeremiah Fisher

Poster 3-01

STILL VIRGIN AFTER MARRIAGE: A CASE REVIEW OF VAGINISMUS

Lead Author: Guntara Hari, M.D.

SUMMARY:
The muscle spasms of vaginismus occur in sexual situations before or during attempts at penetration, which cause penetration impossible. Avoidance behavior also a definitive symptom of this syndrome. This syndrome mostly happened to women of higher education and socioeconomic strata. Medical and psychological factors or both can be identified as the cause. Vaginismus can develops as a major disorder or as a secondary disorders due to other general medical condition. Treatment should consider a tailor made approach regarding culture value, norm, and subject view and knowledge of sexuality in general. Psychotherapy plays an important rules specially if the syndrome is due to a compound of medical and psychological factors or pure psychological factors. Through tailor made treatment, the success rate of this syndrome is very high, thus the prognosis for vaginismus is excellent. Key words: vaginal muscle spasms, psychotherapy.

Poster 3-02

A GENETIC RISK SCORE COMBINING 32 SNPS IS ASSOCIATED WITH BODY MASS INDEX AND IMPROVES OBESITY PREDICTION IN PEOPLE WITH MAJOR DEPRESSIVE DISORDER

Lead Author: Chi-Fa Hung, M.D., M.Sc.
Co-Author(s): Margarita Rivera, Oliver S.P Davis, Gerome Breen, Cathryn Lewis, Anne Farmer, Peter McGuffin

SUMMARY:
Introduction: Obesity is strongly associated with major depressive disorder (MDD) and various medical diseases. Genome-wide association studies (GWAS) have identified multiple risk loci robustly associated with body mass index (BMI). In this study, we aim to investigate whether a genetic risk score (GRS) combining multiple risk loci which achieved genome-wide significance is associated with BMI and predicts obesity in people with MDD. Methods: The unweighted GRS was calculated by summation of the number of risk alleles. The weighted GRS was calculated by summing up the multiplication of the number of risk alleles at each locus by their corresponding effect sizes. Receiver operating characteristic curve was used to calculate the area under the curve (AUC) in order to compare the discrimination ability of obesity. Results: A total of 2521 participants without missing data was included in this analysis. Both unweighted GRS and weighted GRS were highly associated with BMI ($p<0.001$) and explained approximately 1.27% of variance of BMI. Using GRS alone for discriminating obesity was not good enough but adding traditional risk factors improved the ability significantly from 0.58 to 0.66 ($x2=27.68$, $p<0.0001$). The best model was achieved using all genetic information, traditional risk factor and depression status (AUC=0.71, $x2=28.64$, $p<0.0001$).
Conclusion: Using GRS alone improved modest but significant discrimination ability of obesity. Given the high prevalence of MDD and obesity, incorporating genetic information, traditional risk factors and depression status may largely improve the predicting ability for obesity. Future studies should incorporate other genetic information into GRS to improve the prediction ability of obesity.

Poster 3-03

FEDERAL HEALTH PROFESSIONALS EMBRACE THEIR ROLE AS AGENTS OF SOCIAL CONTROL

Lead Author: Paul James Howie, R.N.

SUMMARY: In 2012, the military communities in Bavaria, Heildelberg, and Ramstein, Germany found an increase in adolescents reporting to health clinics, emergency rooms, schools and in-patient psychiatric nursing floors with symptoms related to over the counter medication abuse. Numerous community organizations including Army Community Service, Medical Department Activity, Directorate of Emergency Services, Adolescent Substance Abuse Counseling Service (ASACS), Military Police as well as social workers, nursesIn 2012, the military communities in Bavaria, Heildelberg, and Ramstein, Germany found an increase in adolescents reporting to health clinics, emergency rooms, schools and in-patient psychiatric nursing floors with symptoms related to over the counter medication abuse. Numerous community organizations including Army Community Service, Medical Department Activity, Directorate of Emergency Services, Adolescent Substance Abuse Counseling Service (ASACS), Military Police as well as social workers, nurses, child psychiatrists all worked together to design various Town Hall Meetings /Health Fair for the fourteen schools within the three European military bases. TOWN HALL MEETING / HEALTH FAIR LEARNING OBJECTIVES Prevention programs should address the type of drug abuse problem in the local community, target modifiable risk factors, and strengthen identified protective factors (Hawkins et al. 2002). Prevention programs aimed at general populations at key transition points, such as the transition to middle school, can produce beneficial effects even among high-risk families and children. Such interventions do not single out risk populations and, therefore, reduce labeling and promote bonding to school and community (Botvin et al. 1995; Dishion et al. 2002; Institute of Medicine 2009). Prevention programs should be tailored to address risks specific to population or audience characteristics, such as age, gender, and ethnicity, to improve program effectiveness (Oetting et al. 1997; Olds et al. 1998; Fisher et al. 2007; Brody et al. 2008). When communities adapt programs to match their needs, community norms, or differing cultural requirements, they should retain core elements of the original research-based intervention (Spoth et al. 2002b; Hawkins et al. 2009), which include *Structure (how the program is organized and constructed); *Content (the information, skills, and strategies of the program); and *Delivery (how the program is adapted, implemented, and evaluated). Prevention programs are most effective when they employ interactive techniques, such as peer discussion groups and parent role-playing, that allow for active involvement in learning about drug abuse and reinforcing skills (Botvin et al. 1995). The six town hall meetings were at both middle and high schools with a total of 350 parents and students in attendance. The following data was acquired from a two page questionnaire that was handed to attendees at the beginning of the presentations.

Poster 3-04

PROFILE OF SCHOOL VIOLENCE BETWEEN TWO GOVERNOTATES IN EGYPT

Lead Author: Amira Gamal Seifeldine, A.A.S.
Co-Author(s): Shehab Abdelrahman.

SUMMARY: Bullying is defined as a conscious, deliberate, hostile activity intended to terrorize and harm others through the threat of further aggression. Regardless of grade level, socioeconomic, environment, gender, religion, or sexual orientation, bullying can happen to anyone. Aim of the Study;

1. To measure the prevalence of school violence between two governorates in Egypt.
2. Assess biological, socio-economic factors, student's hobbies and interests in relation to their academic achievements at the previous academic year.

Subject and Methods: Comparative cross sectional sample for students from basic to high school educations. A sample of 1500 students in each of the two governorates. Those were selected by simple random sample. All students were interviewed using pre-scheduled self-rating questionnaire. The questionnaire was validated by two experts in mental and school health. Each question of the previous groups was answered on a liker's scale from 1 to three. A total score was then calculated for each group

and a percent from the highest possible score was computed. Less than 33.3%, 33.4% to 66.6% and 66.7% or more). Statistical analysis were performed using Z test of proportion, and Chi square test. Results were considered significant at P o.o5. Results: The present study shows that the total numbers of responses was 2212 students out of 3000 distributed questionnaires ; response rate=73.4% . It was distributed equally between the two governorates, in Alexandria 1125 the response rate was (75%) and in Dakahelia governorate 1087 (72.5%) was the response rate. The majority of students (93.8 %) had one or more hobbies. Indoor hobbies were presented in 85.2%, while outdoor hobbies were presented among 36 % of the students in the sample. About 40.5% of students had good scores on anger management. These skills were more present among students from Dakahlia governorate than Alexandria. (43.2% versus 37.7%). Violent behavior was more prevalent among students in Alexandria than Dakahlia (88.7% compared to 58.8%). All poor psycho-social behaviors were more presented among high school students than those from basic education with statistical differences X^2=836 and P=0.0003. Almost two third of students (66.6%) completed successfully the last academic year and were accepted to be promoted to the next academic year. A higher percent of students in Alexandria didn't pass and repeated the same year than in Dakahlia.

Poster 3-05

MMSE ITEMS THAT PREDICT INCIDENT DELIRIUM AND HYPOACTIVE SUBTYPE IN OLDER MEDICAL INPATIENTS

Lead Author: José Gabriel Franco, M.D.
Co-Author(s): Olga Santesteban, MS., Paula T. Trzepacz, MD., Carolina Bernal, MD., Camila Valencia, MD., María V. Ocampo, MD., Joan de Pablo, MD., Elisabet Vilella, PhD.

SUMMARY:
AIM: To analyze the prediction relationship of MMSE items for delirium and motor subtypes in a sample of newly admitted patients in a tertiary care facility from Medellín (Colombia), in order to determine whether assessment of certain cognitive domains could enable clinicians to better predict and detect hypoactive delirium.
METHOD: Within a one year period, consecutive patients aged ?60 years hospitalized on internal medicine wards were evaluated on admission with the Confusion Assessment Method-Spanish (CAM-S) to exclude prevalent delirium. Nondelirious were evaluated with the MMSE followed by daily ratings with the CAM-S and those who became CAM-S positive were rated with the Delirium Rating Scale–Revised-98 (DRS-R98), whose motor items were used to determine subtype. The Ethics institute of the Universidad Pontificia Bolivariana approved the study, informed or proxy consent was obtained. Cutoffs for MMSE cognitive functions measured in a continuous way were found with ROC curve analysis. Predictive ability for delirium of MMSE items was calculated with crosstabs analysis for the whole sample (n=291) and for those without cognitive impairment (n=209). Forward stepwise logistic analysis was run for MMSE items, age, educational level, internal medicine diagnosis, visual impairment, use of indwelling bladder catheter, and mean number of medications. ?2 was used to explore if delirium motor subtypes were related to cognitive impairment according to MMSE items.
RESULTS: 34 subjects were incident delirium cases (mean age =78.35 ± 8.96), and 257 nondelirious (mean age =73.88 ± 8.65) (t =2.824, p =0.005). 36.1% male and 63.9% female. The most frequent admission diagnoses were pneumonia (22.7%), urinary infection (17.5%), acute renal failure (12.7%), and complications of cancer (7.2%). 10 incident delirium were hyperactive, 13 hypoactive, and 11 mixed. Temporal orientation, spatial orientation, and visuoconstructional ability were the best predictors of delirium in the whole sample (sensitivity 82.3%, 64.7%, 76.5% respectively) and in those without cognitive impairment (sensitivity 80%, 60%, 73.3 respectively). Disorientation to time (OR 4.4, 95%CI 1.7-11.1) and place (OR 3.8, 95%CI 1.7-8.2) were the only risk factors for delirium that fit onto the logistic model (accuracy 88.3%). Disorientation to time, disorientation to place, and visuoconstructional impairment were each associated with either hypoactive or mixed subtypes (p <0.05 for all ?2 test). Mixed subgroup was 7.6 years older than the rest of the sample (t =2.728, p =0.007). There was no difference on all other variables when comparing each motor subtype subgroup with the rest of the sample (p-values for all t test or ?2 >0.05).
CONCLUSION: Simple bedside evaluation at admission of cognitive functions neuroanatomically overlapped with delirium (temporal-spatial orientation) is recommended to detect patients at risk for incident delirium, especially hypoactive presentations.

Poster 3-06

HOARD QUESTIONNAIRE: A SCREENING TOOL FOR HOARDING DISORDER

Lead Author: Himanshu Tyagi, M.D.
Co-Author(s): Dr Lynne M Drummond

SUMMARY:
Compulsive Hoarding is a complex psycho-social problem which has received significant attention from academics and media alike in past few years. In particular, inclusion of Hoarding disorder as a separate diagnosis in DSM-V has renewed interest in this debilitating illness which can have fatal consequences. Recent epidemiological studies suggest that up to 2-5% of general population can exhibit compulsive hoarding behaviours. A recent study on German population against 3 of the proposed DSM-5 criteria revealed a population estimate of 5.8% in a nationally representative sample. Hoarding disorder is almost always chronic by nature. The available treatment options are limited and largely ineffectual when a diagnosis of hoarding disorder is made late in the lifespan of this disorder, which usually runs into several decades. It is therefore surprising that there is an absence of an easily administrable tool to detect the risk of chronic hoarding and start interventions at an earlier stage in the life-cycle of this disorder, when they are more likely to be effective. A large body of research evidence from the general field of cognitive behavioural therapy (CBT) clearly suggests that dysfunctional core beliefs are more amenable to change if they are addressed earlier on in the lifecycle of any disorder which is amenable to CBT.
Hoarding disorder has a large estimated lifetime prevalence rate, a chronic nature to the illness, problems with a late diagnosis and treatment ineffectiveness. All these factors make a strong case to have a screening tool for this disorder. We present one such tool which is developed for this purpose at the National OCD Service in United Kingdom by clinicians well experienced in the treatment of severe and treatment refractory Hoarding Disorders.
HOARD QUESTIONNAIRE
Question 1. [Keyword: Hurt]
Are you easily hurt if others comment on the excessiveness of your saved items?
Question 2. [Keyword: Organise]
Have you always wanted to organise your things in a meaningful way but are unable to do so because of any reason (e.g. limited time and resources)?
Question 3. [Keyword: Acquisition]
Are you usually not able to stop yourself from acquiring new items which have no immediate use but might be put to some use in future?
Question 4: [Keyword: Running out of space]
Do you find that you are constantly running out of space to store your belongings?
Question 5: [Keyword: Difficulty Discarding]
Do you find it difficult to discard things which you haven't used for a long time?

Use: Any positive answer should trigger a more detailed assessment of hoarding problems.
Features of this questionnaire:
1. Ease of administration
2. Fosters engagement with client
3. Directs treatment if required
Acronym HOARD covers all keywords for ease of remembering [It has been tested with 50 mental health clinicians and general practitioners. More specific details are included in the final poster.]

Poster 3-07

THE EDUCATIONAL ENVIRONMENT IN POSTGRADUATE PSYCHIATRY TRAINING: THE EXPERIENCE IN ASIA

Lead Author: Rathi Mahednran, M.Med.
Co-Author(s): Dr Birit Broekman, Professor Kua Ee Heok

SUMMARY:
Satisfaction with training and successful training and professional development are dependent on the level of engagement and motivation provided by the educational environment. The Postgraduate Hospital Educational Environment Measure (PHEEM), a widely used questionnaire with proven reliability and high internal consistency was used to determine the educational environment for postgraduate psychiatry training in Singapore. An American-styled residency program was introduced in Singapore in 2010 and is accredited by ACGME-I.
Participation rate was 78.9% (N 60). The total PHEEM score (109.3) indicated participants as a whole perceived the training environment as "more positive than negative but there is room for improvement." However perceptions of Teaching were significantly low (p 0.017) on the subscale for Teaching indicating an urgent need to engage teachers and determine skills and teaching competencies.

Poster 3-08

VARIABILITY OF WAIST CIRCUMFERENCE AND ITS RELATIONSHIP WITH CARDIOVASCULAR RISK FACTORS IN OUTPATIENTS WITH SCHIZOPHRENIA

Lead Author: Cheng-Chen Chang, M.D., M.Sc.
Co-Author(s): Te Jen Lai, M.D., PhD

SUMMARY:
Objectives: 1. To compare the magnitude of waist circumference (WC) measured at three sites (immediately above the iliac crest, midpoint between the lowest rib and the iliac crest, umbilical level). 2. To examine the correlation of WC with lipid profiles, glucose and metabolic syndrome in schizophrenic patients.
Methods and Materials: Patients with the DSM-IV diagnosis of schizophrenia, regular follow-up at an outpatient clinic were recruited. After explaining the purpose of the study and obtaining patient's agreement, the following data are collected: age, gender, education level, marital status, height, weight, and smoking. WC was measured using an inelastic plastic tape at each site. Fasting venous blood samples were collected for lipid and glucose analyses. Differences in WC across sites were tested using repeated measures ANOVA, adjusted for multiple comparisons. Linear regression methods were used to model the relation between fat values measured and WC, with separate calculations performed for each of the 3 sites, adjusting of age, smoking, and illness duration.
Results: 45 male and 36 female outpatients (29-52 years) were recruited during Aug. 2009 to July 2010 at a medical center in Central Taiwan. The mean age was 39.1 and 42.9 years for men and women, respectively. BMI was 28.1 for men and 29.1 for women. In both sexes, the highest mean waist values were measured at the umbilicus and the smallest at the midpoint waist. The minimum and maximum WC measurements differed by 2.4 cm among the men and 6.5cm among the women. In both sexes, the mean WC for each measurement site was significantly different from all other individual site ($p<0.017$), with the exception of measures taken at iliac crest and umbilicus. In male patients, TG and HDL cholesterol had higher correlation with waist measured at three sites. Fasting glucose, diastolic BP, Chol_HDL ratio, and metabolic syndrome were highly correlated with midpoint WC after adjusting for age, smoking and illness duration. In women, only iliac crest WC had higher correlation with systolic BP, Chol-HDL ratio. Umbilical WC was highly correlated with systolic BP.
Conclusions: The magnitude of WC is influenced by measurement site in both genders. Adopting a standard measurement protocol in schizophrenic patients will facilitate the interpretation and clinical utility of WC for evaluation of cardiovascular risk.

Poster 3-09

TEST-RETEST RELIABILITY OF ASSIST USING A SELF-REPORT FORMAT WITH UNIVERSITY STUDENTS

Lead Author: Roseli Boerngen-Lacerda, Ph.D.
Co-Author(s): Heloisa Arruda Gomm Barreto

SUMMARY:
Aims: Considering the increasing levels of psychoactive substance use among university students, the development of preventions programs for this population is necessary. This study evaluated the test-retest reliability of a self-report version of the Alcohol, Smoking and Substance Involvement Screening Test (ASSIST).
Settings: Public University in the south of Brazil
Participants: University students (n=170).
Design: The self-report version was adapted with the feedback of a focus group. The students answered the two forms of ASSIST (interview and selfreport) with an interval of about 30 days between tests. Findings: The scores for total involvement, tobacco, alcohol, cannabis and cocaine obtained from the two formats demonstrated a good correlation (ICC>0.60). The reliability of the self-report questionnaire was also good to moderate (Cronbach's alpha of 0.90 for tobacco, 0.71 for alcohol, 0.86 for cannabis and 0.89 for cocaine) and showed acceptable sensitivity (66.7-100%) and specificity (83.5–97.1%) for tobacco, alcohol, cannabis and cocaine when compared to the ASSIST interview format (gold standard). Conclusions: The self-report ASSIST format seems to be reliable. We recommend its use in screening for problematic or high risk use of drugs in university students.

Poster 3-10

THE NORMALIZATION OF PHALLOMETRIC TEST RESULTS IN MEN WITH PEDOPHILIA

Lead Author: Paul Fedoroff, M.D.
Co-Author(s): Karolina Müller, MA, Susan Curry, BA(Hon.), Rebekah Ranger, BSS(Hon.)

SUMMARY:
Introduction: Pedophilia is an adult psychiatric disorder characterized by a persistent sexual interest in prepubescent children. However, controversy remains about whether pedophilic sexual interest is stable or fluid over time. This retrospective study was conducted to test whether pedophilic sexual arousal patterns as measured by penile plethysmography can change.
Method: Initial and subsequent sexual arousal responses to auditory erotic stimuli of pedophilic men (N = 43) who were referred to the Sexual Behaviours Clinic at the Royal Ottawa Mental Health Centre were examined. Subjects who showed a normalization of the phallometric test results were assigned to the preference changer group (PC; n = 21) and subjects who displayed a pedophilic arousal pattern at both testing times were assigned to the preference nonchanger group (PNC: n = 22). Between-group comparisons were conducted to compare the groups on socio demographic data as well as initial and subsequent magnitude of pedophilic indices (PI). T tests for paired samples were used to compare initial and subsequent PI

as well as the initial and subsequent sexual arousal responses to pedophilic and telophilic stimuli within each group.
Results: No differences between groups on age at the initial assessment, years of education and length of time between assessments were found. As expected, t tests for paired samples showed that the mean magnitude of the PI at both assessment time points were not significantly different from each other in the PNC group, but were significantly different for the PC group. The 21 PC participants displayed on average a significant decrease of sexual arousal towards child stimuli and a significant increase of sexual arousal for adult stimuli. Contrary, PNC group did not display differences in sexual arousal for child and adult stimuli. However, between-group comparisons showed that the PC group had on average significant lower PI at the initial and subsequent phallometric assessment than the PNC group.
Conclusion: We found that some men diagnosed with pedophilia showed a normalization of phallometric test results. Not only was deviant sexual arousal diminished, but adult sexual arousal was enhanced. Diminished sexual arousal response can be explained through faking, familiarity with the stimuli or medications. However, those explanations do not explain the observed enhancement of sexual arousal response to non-pedophilic stimuli. Moreover, it was shown that the preference changers had lower initial PI than preference non-changers. Thus, flexibility in sexual interests was more likely in persons with a less distinct relative sexual preference. Our study is a starting point, further controlled and longitudinal studies with larger and more diverse pedophilic samples are needed to verify these findings. Further investigation into the characteristics of men whose arousal patterns change and the possible influence of treatment is needed.

Poster 3-11

A RANDOMIZED CONTROLLED TRIAL OF CONCOMITANT ANTICONVULSANT MOOD STABILIZERS AND ELECTRO-CONVULSIVE THERAPY

Lead Author: Gopalkumar Rakesh, M.B.B.S., M.D.
Co-Author(s): Dr Jagadisha Thirthalli. Dr BN Gangadhar, Dr C Naveen Kumar, Dr Muralidharan Keshavan, Mr Vittal Candade

SUMMARY:
Electroconvulsive therapy (ECT) is an effective treatment for major affective disorders .The combined use of ECT and anticonvulsant mood stabilizers has been a clinical scenario with paucity of literature apart from some open trials and a retrospective chart review. We conducted a randomized controlled trial involving 48 patients – with three limbs wherein the dose of the medication was stopped, halved or continued at full dose. The number of patients in each limb was as follows – stop group(10), half dose(14) and full dose(24). A blind rater assessed the patients using psychopathology rating scales – YMRS, HDRS, CGI and cognitive assessment scale – PGI memory scale. Using RMANOVA faster improvement and greater cognitive deficits were seen in the group taking full dose of the anticonvulsant mood stabilizers.

Poster 3-12

FACIAL EMOTION RECOGNITION IN CHILDREN WITH ATTENTION-DEFICIT/HYPERACTIVITY DISORDER

Lead Author: Jae Hong Park, M.D.
Co-Author(s): Chang-yeop Kim, Pyung Hwa Park, Byeong Moo Choe, Seong Hwan Kim.

SUMMARY:
Objectives: Children with Attention Deficit Hyperactivity Disorder (ADHD) exhibit significant impairments in their social function. Yet, the underlying causes of their social dysfunction have not been established. Poor ability of emotion recognition may be one of explanation of social dysfunction in ADHD. This study examined facial emotion recognition of children with ADHD and their correlation between inattention/impulsivity and social dysfunction.
Methods: The participants consisted of 53 children between the age 7 and 12 (31 ADHD, 22 control group). All subjects had one session of the Emotion Recognition Test-40 (ER-40) to evaluate abilities of facial emotion recognition. To examine inattention and impulsivity of ADHD group, visual Continuous Performance Test (CPT) and ADHD Rating Scale-? (ARS-?) were used. Social function of ADHD group was assessed by social score of Child Behavioral Check List (CBCL).
Results: ADHD group had a significant lower score of anger (-0.55 ± 0.94, p=0.04) and fear (-2.16 ± 1.68, p<0.01) stimuli than control group. There were no significant differences between groups to recognize happy, sad and neutral stimuli. In ADHD group, there were no significant correlations among visual CPT omission error/commission error, ARS-? inattentive/impulsiveness score and the scores of ER-40. Among the ER-40 scores, sad (r=0.41, p=0.02), anger (r=0.40, p=0.03) and fear (r=0.63, p<0.01) scores were positively correlated with CBCL social score. In stepwise linear regression analysis revealed that fear score of ER-40 (?=0.63, p<0.01) and commission error score of CPT (?= -0.47, p=0.03) significantly affected CBCL social score.
Conclusion: Results of this study show that children with ADHD have poor emotion recognition performance on two types of facial emotion (anger, fear), and they do not lack of the general ability to discriminate among all facial emotions. And inattention and impulsivity do not contribute this type of error in emotion recognition. Also, this study has implication for explaining the social problems experienced by many children with ADHD. Some problems might be explained by the impulsivity of children with ADHD, but the current results suggest that problems in recognizing the facial emotion might also contribute.

Poster 3-13

SUICIDE IDEATION RISK FACTORS AMONG UNIVERSITY STUDENTS IN COLOMBIA: A RANDOM SAMPLE MULTI-VARIATE ANALYSIS

Lead Author: Alexander Pinzon, M.D.

SUMMARY:
Background: Suicide is a leading cause of death in adolescence and young adults. University students are a population at risk of suicide because of their exposure to environments of intense psychosocial and academic pressures, especially for subjects who are psychologically vulnerable and have poor social support.
Materials and methods: The principal objective of this cross sectional analytical study was to evaluate the lifetime prevalence of at least one structured suicide ideation episode, among a cluster random sample of university students at the Universidad Industrial de Santander in Bucaramanga (Colombia). Each student was interviewed by a clinical psychiatrist using the DSM-IV structured clinical interview. The lifetime prevalence of depressive disorders, social phobia, obsessive compulsive disorder and substance related disorders were defined. Some other known suicide psychosocial and personal risk factors were evaluated. A multivariate logistic regression model was estimated to identify potential risk factors associated with the hypothesized outcome.
Results: Of the 162 students included, 87 (53,7%) were male. The mean age was 21,3 years (DS=2,7 years). The lifetime prevalence of at least one structure suicide ideation episode was 10,5%. There were no statistical differences by gender. Statistical differences (Chi square or Fisher's exact tests) between the suicide ideation group compared to the non-suicide ideation group were identified in the following variables: lifetime history of depressive disorders (p<0,001), lifetime history of social phobia (p=0,01), exposure to domestic violence during childhood or adolescence (p=0,01) and history of suicide in first degree relatives (p=0.03). Near statistical differences were identified in the following variables: history of sexual abuse (Fishers's exact test p=0,07) and history of affective disorders in

first degree relatives. The final parsimonious multivariate logistic regression model was estimated by keeping the variables statistically associated with the outcome. The final logistic regression model after controlling the effect of the gender variable included only two variables: lifetime history of depressive disorders (OR:40,3 CI95% 7,9-204,8) and history of suicide in first degree relatives (OR:36,9 CI95% 4,2-321,1). This model correctly classified 90,1% of the subjects.
Conclusion: The results of this study may have some practical significance for university administrators in terms of application of simple screening questions or instruments at university entry, for detecting depressive and social phobia symptoms, exposure to domestic violence, history of sexual abuse and family history of suicide and mental disorders and finally indentifying suicide risk students.

Poster 3-14

PROMISING EFFICACIOUS TREATMENT FOR OBSESSIVE-COMPULSIVE DISORDER

Lead Author: Xianzhang Hu, M.D., Ph.D.
Co-Author(s): Jian-Dong Ma, Chang-Hong Wang, Heng-fen Li, Yong-Hus Hou, Xiao-Li Zhang, Xian-Hua Liu

SUMMARY:
Obsessive-compulsive disorder (OCD) is a chronic and disabling mental disease characterized by recurrent intrusive thoughts and by repetitive behaviors or mental acts. Pharmacotherapy and cognitive-behavioral therapy, widely used and with time consuming, are not effective enough for OCD clients. Recently, a promising psychotherapy for OCD, cognitive-coping therapy (CCT), has been developed. We investigated the efficacy of CCT and the mechanism of CCT. After comparing the efficacies among the pharmacotherapy, pharmacotherapy plus CBT, and pharmacotherapy plus CCT in 108 subjects with OCD, we compared the efficacy of CCT in 73 subjects with or without drug resistant OCD. The severity of OCD symptoms was evaluated using the Yale-Brown Obsessive Compulsive Scale Severity Rating (YBOCS-SR). Pharmacotherapy plus CCT not only demonstrated the similar efficacy for those patients with or with drug resistance, but indicated higher efficacy, reduces the severity of OCD symptoms in much shorter time, and lower relapses compared with pharmacotherapy or pharmacotherapy plus CBT. Our preliminary data suggested the CCT was a potential option for OCD.

Poster 3-15

APATHY AND WHITE MATTER INTEGRITY IN ALZHEIMER'S DISEASE: A WHOLE BRAIN ANALYSIS WITH TRACT-BASED SPATIAL STATISTICS

Lead Author: Chang Uk Lee, M.D., Ph.D.
Co-Author(s): Changtae Han

SUMMARY:
Introduction: The aim of this study was to discover WM regions associated with apathy using the advanced method tract-based spatial statistics(TBSS). We then examined the relationships between the significant changes of WM integrity and clinical variables among in AD patients with apathy.
Method: Sixty drug-naïve subjects took part in this study (30 apathetic and 30 nonapathetic subjects with AD). The loss of integrity in WM was compared in AD patients with and without apathy through measurement of fractional anisotropy (FA) using by tract-based spatial statistics (TBSS). In addition, we explored the correlation pattern between FA values and the severity of apathy in AD patients with apathy.
Result: The apathy group had significantly reduced FA values (p corrected <0.05) in the genu of the corpus callosum, compared to the nonapathy group. The severity of apathy was negatively correlated with FA values of the left anterior and posterior cingulum, right superior longitudinal fasciculus, splenium, body and genu of the corpus callosum and bilateral uncinate fasciculusin the apathy group (p corrected <0.05).
Conclusion: This study was the first to explore FA values in whole brain WM in AD patients with apathy. The findings of these microstructural alterations of WM may be the key to the understanding of underlying neurobiological mechanism and clinical significances of apathy in AD.

Poster 3-16

PSYCHODERMATOLOGY IN THE MIDDLE EAST: THE KNOWLEDGE, AWARENESS, AND PRACTICE PATTERNS OF DERMATOLOGISTS TOWARD PSYCHOCUTANEOUS DISORDERS

Lead Author: Ossama T. Osman, M.D.
Co-Author(s): Fadwa Al Mugaddam, MS., Bell Eapan, M.D., Mohammad Jafferany, M.D.

SUMMARY:
AIMS: We aimed to assess the level of training in, and awareness and attitude about, psychocutaneous disorders among dermatologists in the middle east Arab Gulf countries.
METHODS: An online Surrey link was sent to Dermatologists and they were requested to provide information on demographic variables; level of training, skills, and degree of comfort in managing psychodermatologic disorders; referral patterns, knowledge of patient and family resources on psychodermatology; and interest in continuing medical education on psychocutaneous disorders.
RESULTS: Fifty seven (57) dermatologists completed the online survey. In regards to education and training, 31.5% reported having no education/training, 35.7% reported limited or partial education/training, whereas 32.8% reported a clear understanding defining psychodermatology as both psychiatric aspects of skin disease and dermatological manifestations of psychiatric disorders. Eighty six percent (86%) of dermatologists reported a clear understanding of the term psychodermatology, and only 28% of the respondents reported being very comfortable in diagnosing and treating psychocutaneous disorders. The most commonly encountered problems were as follows; The most common condition seen was acne (47.3%), followed by alopecia (31.2%), vitiligo (27.3%), atopic dermatitis (25.4%) and psoriasis (17.7%). Eleven percent (11%) of survey respondents reported referring patients with cutaneous disorders and psychologic components to psychiatrists for further evaluations at least once a month compared with 4% who referred their patients more than once a year. The top five diagnoses referred by dermatologists to psychiatrists were Trichotilomania (24%), followed by delusion of parasitosis (14%), Depression (9%), Psychosomatic (7%). Psychiatric conditions of Body Dysmorphic disorder, Anxiety, OCD and venerophobia account for 5.6% each and 22.2% in total. Uncommon referrals were for neurotic excoriation (n=1), Acne excoriee (n=1), psoriasis (n=2) and prurigo nodularis (n=2), vitiligo (n=2) and venerophobia(n=4). About 91% of the survey respondents were not aware of any patient or family resources on psychodermatology. Overall, 23% of the dermatologists expressed interest in attending any kind of continuing medical education activity on psychodermatologic disorders.
CONCLUSION: Survey results showed that knowledge about the diagnosis, treatment and/or appropriate referral for psychocutaneous disorders needs further enhancement. Significant information gaps were also identified in the knowledge of patient or family resources on psychocutaneous disorders. We support the recommendation to incorporate formal training and didactics on psychodermatology in dermatology and psychiatry residency programs. There is also a need for a specialized Dermatology–Psychiatry liaison services and psychodermatology clinics to assist in the management of these patients in clinical settings.

Poster 3-17

SEASONALITY OF SUICIDE IN TROPICAL AND EQUATORIAL LATITUDES: A REPORT FROM BRAZIL

Lead Author: Fernando M. Volpe, M.D., Ph.D.

Co-Author(s): Roberto Marini Ladeira, MD, PhD, Daniel Hideki Bando, PhD

SUMMARY:

Background: Seasonality of suicide has been consistently reported in temperate regions of the globe. The most frequent finding has been a spring/summer peak. However, scarce and conflicting results originate from tropical regions. A latitude effect has been suggested by many studies, since seasonality has been reported to be flattened at lower latitudes on both hemispheres.

Objective: To investigate seasonal patterns of suicides in Brazilian capitals located in tropical and equatorial regions.

Methods: Monthly suicide mortality data from 19 Brazilian capitals (1979- 2010) were obtained from the Brazilian Mortality Information System, and then, grouped by latitude bands and adjusted for population and number of days/month. Seasonality was assessed by studying the distribution of suicides over time using cosinor analyses, for each latitude band, adjusting for secular variation with a multiplicative regression model. Seasonality was considered significant when the amplitude parameter differed significantly from zero.

Results: In total, 20,102 suicides were included within the study period, resulting in average 1.4 deaths/100.000 population. There was a slight but significant seasonal pattern for all capitals grouped ($R2=41.4\%$; $p<0.001$; amplitude= ±2.9%), the peak occurring in spring/summer. However, when analyzing suicide seasonality by latitude bands, a progressive latitude effect could not be observed, since only suicides at cities located at intermediate latitudes presented a significant seasonal distribution.

Conclusion: Seasonality of suicide occurred in tropical regions of Brazil, however, no effect of increasing latitudes was observed.

Poster 3-18

EFFECTIVENESS AND SAFETY OF RAPID CLOZAPINE DOSE TITRATION

Lead Author: Petru Ifteni, M.D., Ph.D.

Co-Author(s): Peter Manu1

SUMMARY:

Background: Clinical guidelines recommend slow clozapine dose titration, a procedure introduced in the 1980's to decrease the risk of drug-induced seizures and hypotension. The procedure is considered safe, but may delay adequate control of symptoms.

Objective: To evaluate the effectiveness and safety of rapid clozapine dose titration in schizophrenia patients at high risk of harming themselves or others.

Methods: The rapid clozapine dose titration was used for a consecutive cohort of schizophrenia patients (N=111, mean age 42.1%, 52% males) admitted to a single psychiatric hospital. Clozapine was started with a dose of 12.5-25 mg and additional doses of 25-50 mg where given as needed every 6 hours. The clozapine treatment was intiated on admission for 73 patients who had been treated with clozapine in the past (Group 1). Thirty-eight patients received clozapine after failing to respond to other antipsychotics (Group 2).

Results: Admission PANSS scores were similar in the 2 groups (104.3±2.9 vs. 103.8±5.1, p=0.48). Symptom control was obtained after 4.1± 3.1 days with a maximum dose of 352.7 ±176.1 mg clozapine/day in group 1 and after 7.1 ± 4.8 days ($p<0.001$) with a maximum dose of 408.6 ± 187.5 mg clozapine/day (p=0.12) in Group 2. The PANSS scores at discharge indicated similar reduction in symptom severity (60.5±5.4 vs. 59.8±7.4, p=0.539). None of the patients treated had seizures, syncope, severe neutropenia or other significant adverse drug reactions.

Conclusions: Rapid clozapine dose titration appears safe and effective when used in schizophrenia patients with or without prior exposure to the drug.

Poster 3-19

CHRONIC AGORAPHOBIA AND COMBINED TREATMENTS WITH OR WITHOUT VIRTUAL REALITY EXPOSURE

Lead Author: Carmen T. Pitti, Ph.D.

Co-Author(s): Wenceslao Peñate, Professor, Juan de la Fuente, Ph.D., Juan Manuel Bethencourt, Ph.D., Pedro Barreiro, M.D., Ramon Gracia, Professor.

SUMMARY:

This paper presents data about the differential findings of two intervention programs in the treatment combined (Combi) of patients with chronic agoraphobia disorder: traditional psychological therapy and the use of virtual reality. The traditional therapy consists in the use of expositive techniques with cognitive restructuring (CBT). The treatment with virtual reality (VR) consists in to expose patients to phobic scenarios constructed in virtual reality, as part of expositive procedures. Patients were also treated with psychoactive drugs (venlafaxine or paroxetine). Patients were treated in the University Hospital of Canary Islands (psychiatry service). 60 patients received eleven individual psychotherapy sessions (30 Combi-CBT, and 30 Combi-CBT-VR). Sessions 1,2, and 3 were similar to both Combi-CBT and Combi-CBT-VR groups. In the Combi-CBT-VR group, sessions 4 to 11 consisted in expositive procedure to phobic stimuli, presented by virtual reality. Combi-CBT-group was trained in the use of exposition to different phobic stimuli. Both groups were treated with cognitive restructuring to deal with pathological thoughts (nonadaptative coping strategies), and were motivated to use in vivo self-exposure. Patients were assessed three times: pre-treatment, post-treatment and six month follow-up. Results were analyzed according different measures of level of anxiety and the use of coping strategies. Results showed that both treatment programs were efficient. Also, data suggest a better clinical efficiency of VR with chronic agoraphobic patients, no related with the type of drugs used (venlafaxine or paroxetine). These findings are discussed into the development of new technological approaches to mental health. Acknowledgment: Ministry of Science and Technology of Spain (FIT-150500-2003- 131), the Department of Health (FUNCIS file 33/03) of the Canary Islands, the Ministry of Education and Science (SEJ-2006-13130) of Spain, by the Canary Agency for Research, Innovation and Information Society (SolSubC200801000084) and by the Ministry of Science and Innovation of Spain (PSI-2009-09836).

Poster 3-20

DEPRESSION IN PATIENTS WITH PULMONARY TUBERCULOSIS IN A TERTIARY CARE GENERAL HOSPITAL

Lead Author: Anusha Manjegowda, M.B.B.S.

Co-Author(s): Arjun L Balaji, Hulegar A Abhishekh, Naveen C Kumar, Ravindra M. Mehta

SUMMARY:

Background: Pulmonary Tuberculosis is a chronic infectious disease resulting in mortality and morbidity. More than 5.8 million new cases of TB were reported every year most of which occur in developing country. Rates of co-morbid depression among chronic medical illnesses are higher. Same is true about pulmonary tuberculosis also. Though this is the case, there is hardly any data from this part of the country. In this study, we report the prevalence of clinical depression in patients with pulmonary tuberculosis who consulted a tertiary care general hospital in Bangalore, India.

Methodology: Sample included 200 consecutive patients who presented with mediastinal lymphadenopathy between September 2009 and October 2011. Trans bronchial needle aspiration cytology (TBNA) was done with conscious sedation and topical anesthesia. A maximum of 7 passes per site were done. Rapid on

site evaluation (ROSE) was used in all cases. Lymph node samples were labeled 'adequate' if lymphocytes were present in the specimen, and 'diagnostic' if a positive diagnosis was made. Positive diagnosis of TB was made on seeing caseating granulomas. Hamilton depression rating scale (HDRS) was administered to all patients. Patients with a score 7 or more were considered to be 'cases' of depression [score of 8-13 was considered mild depression and 14-18 was categorized as moderate depression].
Results: There were 108 (54%) males and 92 (46%) females. Mean age was 46.29 years (SD= 15.25). Prevalence of depression was found to be 39.5 % (Mild=26%, Moderate=13.5%). Mean HDRS score was 11.44.
Conclusion: Prevalence of depression in patients with pulmonary tuberculosis is higher than that of the general population in this sample. Previous studies reported prevalence of depression from 13.5% to 72%. This difference is attributable to different scales used. It should be noted that most of the studies showed that nearly one half of the tuberculosis patients were depressed. Our results are consistent with these studies. Though, there are limitations (no structured interview was used to diagnose depression, no comparative sample from the general population/patients with other medical disorders), this study highlights clinical issue in consultation liaison psychiatry.

Poster 3-21
DEPRESSION OR END-STAGE RENAL DISEASE? PRELIMINARY STUDY
Lead Author: Beatriz Comenge Acosta, B.S.
Co-Author(s): Carmen T. Pitti, PhD, Karyn Zlatkis, DT, Zoraida García, NP
SUMMARY:
Depression has been identified as the most common psychological disorder for patients with End Stage Renal Disease (ESRD) in hemodialysis (HD). Many of the physical symptoms of depression may be overlapped with symptoms of the own renal insufficiency. This probably leads to a flaw in the detection and proper treatment of depression in these patients. The purpose of our study was to evaluate the presence of depression symptoms in 86 patients undergoing HD, using the Beck Depression Inventory questionnaire (BDI-II) and contrast the results with those patients receiving antidepression treatment. The BDIII questionnaire has been validated for evaluating depression in ESRD patients, with a cutoff score of > 16, with a high (91%) sensitivity and a high (86%) specificity. The results of this study showed that 30% of our patients have depressive symptomatology, according to the BDI-II questionnaire (22,1% scored moderate to severe). 20% of the patients are receiving psychiatric treatment; but only 11% of patients, have depression symptoms evaluated with the BDI-II questionnaire. These results show that there may be a possible confusion in the diagnosis of depression, between psychological or physical symptoms due to ESRD. Conclusions: There are a number of patients in HD treatment with depressive symptoms that are underdiagnosed, and consequently don't receive a proper treatment. More clinical trials are necessary to confirm these results.

Poster 3-22
CLINICAL CORRELATES OF BIPOLAR DISORDER COMORBIDITY IN PATIENTS WITH EATING DISORDERS
Lead Author: Mei-Chih Meg Tseng
Co-Author(s): Shih-Cheng Liao, Hsi-Chung Chen, Kuan-Yu Chen
SUMMARY:
Objectives: To report on the correlates of lifetime bipolar disorders (BD) in a sample of individuals with eating disorders (EDs).
Methods: Sequential attendees aged 18-45 without overt psychotic symptoms were invited to participate a two-phase survey for EDs at the psychiatric outpatient clinics in a university hospital. Each participant completed the paper form SCOFF and received an interview blindly using the ED Module of the Structured Clinical Interview for DSM-IV-TR Axis I disorders Patient version (SCID-I/P). Patients diagnosed as EDs were invited to receive the Structured Interview for Anorexia and Bulimia (SIAB) and Mini International Neuropsychiatric Interview (M.I.N.I.), and completed several self-administered questionnaires, including Bulimic Investigatory Test Edinburgh (BITE), Body Shape Questionnaire (BSQ), Beck Depression Inventory (BDI), State-Trait Anxiety Inventory (STAI), Affective Lability Scale (ALS), and Barratt Impulsiveness Scale (BIS-11). Clinical and demographic characteristics of both groups (group with BD vs. group without BD) were compared.
Results: One hundred and fifty-five patients with EDs (135 women, 87.1%) completed the assessments. 54 (34.9%) ED patients met DSM-IV criteria for at least one comorbid lifetime BD. There were no significant BD comorbidity differences between anorexia nervosa (AN, 17.2%), bulimia nervosa (BN, 35.8%), binge-eating disorder (BED, 45.7%) and EDs, NOS (EDNOS, 38.1%) patients. There were no significant differences between groups in age, age of onset of any disordered eating behavior, and degree of severity in binge-eating symptoms and body image concern. Presence of a lifetime comorbid BD was associated with male gender, fewer educational years, greater mean BMI, higher percentages of comorbidity with lifetime generalized anxiety disorder, panic disorder, and alcohol use disorder, and more severe degree of suicidal acts and other impulsive behaviors and emotional disturbances.
Conclusion: Patients with EDs, especially bingeeating disorder, frequently have comorbid BD. Although this comorbidity is not associated with more severe degree of EDs, but was associated with more pervasive emotional and behavioral dysfunction.

Poster 3-23
PSYCHIATRIC COMORBIDITY AMONG INDIVIDUALS WITH SUBSTANCE DEPENDENCE AT A TERTIARY CARE HOSPITAL IN PAKISTAN
Lead Author: Muhammad Waqar Azeem, M.D.
Co-Author(s): : Imtiaz Ahmad Dogar, MBBS, FCPS, Nighat Haider, MSc, Naveed Irfan, MBBS, FCPS, Mohsin Ali Cheema, MBBS
SUMMARY:
Background: Studies have shown higher rate of various psychiatric disorders among individuals with substance abuse / dependence. There is little data in developing countries, such as Pakistan, on prevalence of psychiatric comorbidity in this population and impact on treatment.
Objective: To assess the psychiatric comorbidity among individuals with substance dependence in Pakistan.
Methods: This was a prospective study conducted at a tertiary care hospital in Pakistan. Participants were 588 individuals with substance dependence admitted to a tertiary care hospital in Pakistan, mainly in male inpatient substance dependence unit. The patients were assessed for psychiatric comorbidity using DSM IV criteria. Informed consent was obtained. The study was approved by the Institutional Research Committee.
Results: 99% of the participants were males. 83 % of the individuals were between ages 20 and 45, 10% above age 45 and 7 % below age 20. 61% were married. Among the sample 69% were employed and 84% belong to lower socioeconomic status. Various street drugs used were: heroin 70%, opium 10%, cannabis 44%, and alcohol 18%. Significant numbers of individuals in this sample were using multiple street drugs. 34% (200) were found to have comorbid psychiatric diagnosis in this sample. Among the 200 individuals with psychiatric comorbidity, following were the comorbid diagnosis: depression 46%, anxiety disorders 11%, drug induced psychosis 6%, bipolar disorder 4%, and personality disorders 20%.
Conclusions:

1. There was high rate of psychiatric comorbidity among individuals with substance dependence in this sample.
2. Depression, personality disorders and anxiety disorders were the major comorbid diagnosis among this population.
3. Limitations include absence of females in this sample and lack of comparison group.

References:

1. Kandel D, Huang F, Davies M. Comorbidity between patterns of substance use dependence and psychiatric syndromes. Drug and Alcohol Dependence. 2001; 64(2): 233-241.
2. Davies R. Adolescent substance abuse: psychiatric co morbidity and high risk behaviors. American Journal of psychiatry. 2009; 166 (1): 117

Poster 3-24

PROGNOSTIC PREDICTORS IN PARANOID SCHIZOPHRENIA

Lead Author: Teresa Gonzalez

Co-Author(s): Pilar Rojano, Paz García, Rosa Gutierrez, Javier Irastorza, Marta Llavona, Margarita Alvarez

SUMMARY:

The developmental prognosis of the paranoid schizophrenia depends on various variables. Some of them haven´t been, up to now, properly researched. A cross-sectional design was employed, using validated scales, to evaluate the prognosis of the paranoid schizophrenia in a sample of forty patients, consecutively treated at two Mental Health Centres and to evaluate premorbid adjustment, cognitive profile, insight, therapeutic adherence and clinical variables from the part of the patients with paranoid schizophrenia as secondary variables that might intervene as relevant factors to lead to the prognosis of the illness. Four variables explain the prognosis in the analyzed sample: premorbid adjustment, WAIS III-braintreaser, DAI and time of untreated psychosis. These factors must be taken account in therapeutics programs to improve the prognosis of the illness.

Poster 3-25

PSYCHIATRIC DISABILITY IN INJURED WORKERS

Lead Author: Policarpo E. Rebolledo, M.D.

Co-Author(s): Catalina Rebolledo, Consuelo Rebolledo, Natalia Clavijo, Alonso Mujica, Luis Guzman, Manuel Rivas

SUMMARY:

Aim of Investigation: To assess the frequency of psychiatric sequelaes in patients who have had a work accident and have been assessed by Medical Disability Committee when treatment has concluded.

Method: Descriptive study of 896 patients evaluated during 2011 by a Medical Disability Committee in order to determine level of disability in accordance with Law 16.744. (Legislation of work accidents and occupational diseases) Clinical records were reviewed and final outcome assessed by a thorough physical and mental examination. Demographic data, diagnosis, sequelaes and level of disability were registered. Classical statistical measures were used for data analysis.

Results: Hospital del Trabajador provides medical attention to persons who had suffered a work accident with different kind of injuries and different level of severity. When the treatment is finished, some of them present sequelaes that have to be evaluated to provides them an economic compensation in accordance with the degree of disability. In the total sample, 896 patients were evaluated during 2011. 3 46 patients presented psychiatric diagnosis(38.6%) 150 of them were without sequelaes (16.7%) and 196 cases presented psychiatric sequelaes (21.9%). 148 patients were men (75.5%), age average was 47.4 years with a range between 20 and 81 years. 50 % were blue collar unskilled workers, 25 % worked in service and administrative area and only 3,5% were professionals The more frequent psychiatric morbidity was cognitive impairment secondary to head injury, Adjustment disorders, posttraumatic stress disorders and depression. Patients with higher disability benefits show more frequent psychiatric sequelaes.

Conclusion:

- In this study 21,9 % of the patients showed psychiatric sequelaes.
- Most of the patients without psychiatric sequelaes, had low disability compensation.
- The major diagnosis is related to cognitive impairment with different level of severity secondary to traumatic brain injuries.
- Patients with higher disability compensation show more frequent psychiatric sequelaes.

Poster 3-26

THE USE OF AGOMELATINA IN DRUG-ADDICTED PATIENTS WITH PSYCHIATRICS DISORDERS

Lead Author: Maria Chiara Pieri, M.D.

SUMMARY: Agomelatine is an innovative antidepressant with new mode of action: it's an agonist of melatoninergic receptors MT1 and MT2 and 5HT2c antagonist. The idea of this study was to assess the use of agomelatine in patients treated in our center for drug addiction in Bologna (SERT), and in particular: patients with heroin abuse treated with full/partial opioid agonists (methadone, buprenorphine, Buprenorphine/naloxone); patients treated for alcohol abuse; patients who failed to antidepressants and treated with oppioid agonist; patients treated for benzodiazepines abuse. Objective of the study; to evaluate the improvement of mood, anxiety and sleep disorders in patients treated with agomelatine and affected by drug addiction (heroin, alcohol and benzodiazepine) Methods the efficacy of agomelatine was assessed by investigator at T0 and at monthly visit up to 6 months using HAM-A, HAM-D21, VAS for craving VAS for the quality of sleep. Weight, number of hours slept and quality of life were evaluated Blood parameters were assessed at T0 and T6 Heroin, cocaine and cannabinoid metabolites were evaluated Conclusion We evaluated the efficacy of agomelatine on top of conventional treatments for drug addiction in 3 different groups (heroine, alcohol and sedatives addiction) In all three groups we've observed the improvement over time in depressive symptoms and anxiety symptoms We've noticed an important reduction of craving The quality of sleep and the time of sleeping have markedly improved The quality of life was increased in all patients treated with agomelatine

Poster 3-27

MONITORING OF HYPONATREMIA IN ELDERLY PATIENTS ON ANTIDEPRESSANTS (ADS)

Lead Author: Azhar Zia, D.P.M., M.B.B.S., M.Psy.

Co-Author(s): Dr Rohit Shankar, Dr Thomas Manders, Dr Alin Mascas

SUMMARY:

ADs have been associated with Hyponatremia due to its side effect of syndrome of inappropriate Antidiuretic hormone secretion (SIADH). Implications of not recognizing Hyponatremia in the elderly can lead to health concerns such as restlessness, dehydration, confusion, lethargy, agitation, seizures, falls, and fractures and in extreme cases death. It contributes to longer hospital stay leading to cost implications and poor quality of life. We looked to examine and attempt to improve the quality of monitoring of Hyponatremia caused by AD prescribing to the elderly psychiatric inpatients within Cornwall UK. Elderly patients on ADs were selected across the various inpatient psychiatric wards of the county and data collected on a tool structured on 'gold standard' criteria derived from Maudsley good practice guidelines. It was audited as to whether Serum sodium levels were checked after admission to hospital at baseline (7days), 2 and 4 weeks and then 3 months after commencement of ADs.

Results: 16 patients (males 9 females 7) were audited in 2011 and 31 (males 20 females 11) in 2012. Average age of study population was 74.1 years in males and 80.1 years in females in 2011 and 72.35 years in males and 69.09 years in females in 2012. In 2011, 87.5%, 55.6%, 50%, 33.3% of patients had their sodium levels checked at 1, 2, 4 & 12 weeks respectively. In 2012 similar checks at 1, 2, 4 & 12 weeks showed sodium level checks to be carried out in 45.16%, 6.45%, 22.58% & 35.48% of patients reviewed respectively. 7 patients were on ADs prior admission in 2011 compared to 8 in 2012. Detailed demographic data and comparative and descriptive statistics will be provided on the poster as a table. The audit suggests that that there are substantial gaps in monitoring of Hyponatremia in elderly patients commenced on ADs. We think it is reasonable to hypothesize that when significant gaps are found in a controlled setting such as inpatient care similar or greater deficits could be present in the community care where the population of elderly on ADs would be greater. Hyponatremia is an important and well known side effect of ADs which often goes unrecognized. It can compound existing Hyponatremia due to other organic causes and if not investigated could lead to severe physical complications and possibly death. It is easy to test and easy to correct. It is important that clinicians should actively monitor and treat Hyponatremia when prescribing ADs. The inpatient elderly psychiatric population tends to have a higher incidence and prevalence of complex physical issues and/or ethical dilemmas such as capacity and insight impinging on their clinical presentation. Awareness of side effects such as Hyponatremia would help responsible AD prescribing in this vulnerable population. We believe there is further scope to improve Hyponatremia monitoring for the elderly on ADs.

Poster 3-28

HEALTH-RELATED QUALITY OF LIFE IN THE THAI BIPOLAR DISORDER REGISTRY

Lead Author: Ronnachai Kongsakon, Psy.D.

Co-Author(s): Manit Srisurapanont, Suchat Paholpak, Thawatchai Leelahanaj

SUMMARY:

Background: Bipolar disorder (BPD) affects both patients' functioning and well-being. Quality of life (QoL) has gained increasing attention as an important functional outcome in BPD. The present study was conducted to assess QoL of Thai BPD patients.

Material and Method: The Thai Bipolar Disorder Registry was a multicenter naturalistic, observational study conducted in Thailand. This study conducted in 24 university, public mental, and public general hospitals between February 2009 and January 2011. Participants were adult inpatients or outpatients with DSM-IV bipolar disorder. This study did not involve any clinical management of the enrolled participants, and it was approved by the Institutional Review Board or Ethics Committee of each site. SF-36 and Thai Mania Rating Scale (TMRS) were used to assess QoL and severity of symptoms respectively.

Results: Of 424 BD participants, 258 (60.8%) were female, and 404 (95.3%) were BD I. The mean TMRS was 3.8 (±5.6). Compared with the Thai general population, SF-36 scores of study population were significantly lower, except for physical functioning, bodily pain and social functioning domains. Sodium valproate treated group's SF-36 scores have no statistical difference from lithium carbonate treated group's ($p = 0.96$).

Conclusion: The present study is one of the pioneers in assessing the impact of co-morbidity on health-related QoL in Thai BPD patients. Even in the stable phase, patients were less functioning than the normal Thai population.

Keywords: Bipolar disorder, Health-related quality of life, SF-36, Lithium, Sodium valproate

Poster 3-29

ANNUAL DIRECT AND INDIRECT COSTS OF US EMPLOYEES WITH BIPOLAR DISORDERS, SCHIZOPHRENIA AND CONTROLS FROM 2001 TO 2011

Lead Author: Richard A. Brook, M.B.A., M.S.

Co-Author(s): Krithika Rajagopalan, PhD; Nathan Kleinman, PhD; Mariam Hassan, PhD; Jacob Young, Andrei Pikalov, MD, PhD

SUMMARY:

Objective: To compare the annual direct and indirect costs between US employees (EMPs) with Bipolar Disorder (BPD), Schizophrenia (SCZD), and a Control group without BPD/SCZD (CTRL).

Methods: Analysis of administrative claims from the Human Capital Management Services Research Reference Database of geographically dispersed large US employers in years 2001-2012. Subjects with a BPD or SCZD diagnostic claim and ?12 months follow-up after the index date were eligible. For BPD and SCZD subjects, the index date was the date of the initial claim, and for CTRLs, the average of BPD and SCZD index date by year. Outcomes measured annually were: medical, drug, sick leave (SL), short- and long-term disability (STD, LTD), and workers' compensation (WC) costs. The cohorts were examined using two-part regression models (logistic followed by generalized linear models), while controlling for potentially confounding factors (demographics, job related variables, region, and year). All costs were inflation adjusted to 2012.

RESULTS: The analysis identified 5299 EMPs with BPD; 391 with SCZD; and 653,707 CTRLs. Compared with CTRLs, the BPD and SCZD cohorts were less likely to be married and exempt (salaried) and had lower salaries. In 2001, BPD EMPs annually cost $8573 more than CTRLs, with higher costs in all categories, and significantly higher costs (all $P<0.003$) for Medical ($4701), Rx ($2252), SL ($391), STD ($762), and WC ($461). Those with SCZD were $8,812 more costly than CTRLs and higher for Medical ($6549) and Rx ($2119) and $205 lower WC (all $P<0.05$). Overall, BPD EMP were $239 less expensive than those with SCZD despite $649 higher STD and $666 higher WC (both $P<0.05$). In 2011, BPD EMPs cost $9547 more than CTRLs, with higher costs in all categories, and significantly higher costs (all $P<0.002$) for Medical ($6147), Rx ($2552), SL ($208) and STD ($413). Those with SCZD were $7772 more costly than CTRLs and significantly higher for Medical ($5191, $P<0.05$) and Rx ($2630, $P<0.02$). BPD EMPs were $1775 more expensive than those with SCZD (all $P>0.05$). The significant BPD cohort changes (2001 to 2011) were +$1950 for Medical and - $473 for STD (both $P<0.03$). Since 2006, there have been consistent decreases in STD costs for the BPD and SCZD cohorts (since 2007 for LTD and WC). From 2001-2011, direct costs as a % of total increased for those with BPD from 78.9% to 86.7% and from 75.2% to 78.8% for CTRLs; for SCZD these percentages decreased through 2005 and then increased through 2011.

CONCLUSION: The impact of BPD and SCZD is costly in the workplace, leading to increased health benefit costs. While disability costs have become marginally lower since 2006, medical costs (e.g., doctor or inpatient visits) among these two patient populations still remain significantly high suggesting the need for better therapeutic options. Further research may explain if the health benefit cost changes are due to benefit design policies and/or antipsychotic drug use.

Poster 3-30

PREDICTORS OF NURSING STUDENTS' SUBJECTIVE WELL-BEING AND GENDER DIFFERENCE IN KOREA: THE EFFECTS OF NARCISSISM AND COMPARISON TENDENCY

Lead Author: Yong Chon Park, M.D., Ph.D.
Co-Author(s): Eun Young Jang, Ph.D., Soun Mee Lee

SUMMARY:
Objectives: The number of male students entering nursing schools has increased in South Korea over the last few decades. The aim of this study was to develop a model explaining the subjective well-being of male and female nursing students to learn how to improve their mental health. From a view of male students, they need to enhance their self-esteem as a minority in the group. Therefore, we compared the level of narcissism, comparison tendency, subjective well-being, and personality traits between genders. We focused on the interaction effect of narcissism and comparison tendency on subjective well-being additionally.
Methods: The study was conducted in November 2011 on a convenience sample of 270 nursing students (198 females and 67 males) from colleges in South Korea. There were no significant differences in results between colleges or programs. A blinded associate briefed students on the purpose of the study and provided assurance that all information would remain confidential. The questionnaire included scales to measure subjective well-being, openness, conscientiousness, extraversion, agreeableness, neuroticisms, overt narcissism, comparison tendency, and self-esteem. The mean score of each scale was statistically analyzed.
Results: Age was significantly different between genders; on average females were almost one year younger than males. With regard to personality traits, male students rated themselves more favorably than female students. Specifically, male students rated themselves as more open to experiences, more emotionally stable and were found to have higher self-esteem. Interestingly, male nursing students showed the higher level of overt narcissism. However, there was no significant gender difference in comparison tendency and subjective well-being. The results of hierarchical regression analyses showed that our regression model explaining subjective well-being of male and female nursing students were satisfactory. Among female students, significant predictors of subjective well-being were narcissism, self-esteem and neuroticism. Otherwise, male students' subjective well-being was explained by self-esteem, comparison tendency and openness. In addition, the effect of comparison tendency on male students' subjective well-being was moderated by narcissism. Specifically, male nursing students with high level of narcissism, comparison tendency influenced their subjective well-being negatively.
Conclusions: The findings have confirmed that gender-specific strategies for enhancing subjective well-being of nursing students. Specifically, the intervention techniques which can lower the tendency of comparing with others in male students need to be developed. In addition, male students should be understood and managed as minorities of a major group which usually regarded as representing femininity.
Key words: Korean nusing students, subjective well-being, narcissism, social comparison, gender difference

Poster 3-31

PERSONALITY AND COPING STRATEGIES AS PREDICTORS OF FUNCTIONALITY IN PARANOID SCHIZOPHRENIA

Lead Author: Pilar Rojano
Co-Author(s): Teresa Gonzalez, Margarita Alvarez, Rosa Gutierrez, Marta Llavona, Paz Garcia, Javier Irastorza

SUMMARY:
Coping strategies and dysfunctional personality patterns may be related to functionality in patients with paranoid schizophrenia. A cross-sectional design was employed, using validated categorical and dimensional scales to evaluate functionality, coping strategies and personality in a sample of forty patients with paranoid schizophrenia consecutively treated at two mental health centres. Two variables explain poorer functionality in the analyzed sample: high emotional expression as a coping strategy and schizoid personality pattern. Therapies focusing on enhanced coping skills and longterm care to change inappropriate behaviour and thought patterns must be included in therapeutics programmes for patients with paranoid schizophrenia in order to improve their functionality.

Poster 3-32

RATIONALE FOR COMBINATION THERAPY WITH GALANTAMINE AND MEMANTINE: THE EFFICACY OF TREATMENT OF ADDITION IN ALZHEIMER'S DISEASE

Lead Author: Julio César Zarra, M.D.
Co-Author(s): María Belén Grecco

SUMMARY:
Introduction: Considering the moderate clinical state the Alzheimer´s Disease, without therapeutic response or poor therapeutic response with an anti-dementia agent, we try improvement the therapeutic response with 2 drugs association.
Hypothesis: The efficacy, safety, and tolerability of cholinergic agent: GALANTAMINE (with a dual mechanism of action on the cholinergic a system) and moderate affinity NMDA- receptor antagonist: MEMANTINE, were assessed taking into account the profile of patients with neurocognitive disorder: Alzheimer's disease, from the clinical aspects and the different classifications.
Methods: The experience included 528 patients who were enrolled in a prospective, observational, multicenter, and open-label study to receive 16 mg/day of galantamine and 30 mg/day of memantine for 12 months of treatment of addition.
Results: The therapeutic response was measured using the Mini Mental State Examination (MMSE), Clinical Dementia Rating (CDR), Alzheimer's Disease Assessment Scale (ADAS-GOG), Functional Activities Questionnaire (FAQ) the Clinical Global Impression Scale (CGI) and the UKU scale of adverse effects. Taking into account the efficacy, safety and adverse events of the treatment, the final results of the study showed that galantamine with addition memantine improve cognition, behavioural symptoms, and the general well-being of patients with cognitive impairment: Alzheimer's disease. The incidence of adverse events was not significant and a very good profile of tolerability and safety was observed.
Conclusion: At the conclusion of this session, we should be able to demonstrate with use the association memantine - galatamine in neurocognitive disorder: Alzheimer's disease, improve cognition, behavioural symptoms, and the general state recognized as neurocognitive disorder. Discussion: Suggest that before Alzheimer´s Disease continues evolution to a severe state, the pharmacological use this association to slowing or stopping the dementia process

Poster 3-33

EVOLUTION OF MEMORY DISORDER IN THE ELDERLY: THAT RECOVER, THE REMAINING STATIONARY, AND THOSE THAT ARE IN DEMENTIA

Lead Author: Luisa Schmidt, M.D.
Co-Author(s): María Belén Grecco, Julio Zarra, M.D.

SUMMARY:
Introduction: Even though most than a hundred years have passed since we know Alzheimer's disease today it's considered as the human's frightful flagellum. While most of mental disease seem to be losing its evilness, the neurocognitives disorders caused by Alzheimer's disease, far from attenuating has duplicated it's appearance every each five years. And its symptoms are still being more depriving. So, in opposition to the rest of the illness that affects the nervous system and the psychic apparatus, which due to the new treatments has been

attenuated the clinical forms' Alzheimer. With its severe pronostic and the illness evolution, haven't been soften.
Hypothesis: Our intention is firstly, share some concepts to consider Alzheimer's disease as a cruel illness that can reach all the elderly people around the world. Secondly, to analyze the different forms of presentation than can mask a clinical state. Which many times could end-up in dementia? And will soon destroy the whole psychic apparatus of a person.
Methods: present our study group in the four institutional medical centers, with ambulatory patients, who consult about a cognitive disease. We describe the evolution trough time, taking into account the pharmacological treatments. We included 1050 patients with diagnosis the Mild Cognitive Disorder and 458 patients with diagnosis the Alzheimer`s Disease (DSM IV-TR criteria).
Results: the importance of the early detection of memory disorder, as one of the first signs of alarm which give us the opportunity to intervene therapeutically in on time.
Conclusions: We can recognize the Mild Cognitive Disorder as a clue which reveal a first therapeutic instance probably in efficacy in this cruel evolution towards dementia.
Discussion: In the presence of a disorder of memory in the elderly people, with the possibility of evolving towards dementia, we prefer to begin drug therapy early, preventive character.

Poster 3-34

LEVOMILNACIPRAN (F2695), A NOREPINEPHRINE-PREFERRING SNRI, IMPROVES WORKING MEMORY IN THE RAT DELAYED NON-MATCHING TO POSITION (DNMTP) ASSAY

Lead Author: Ronan Depoortere, Ph.D.
Co-Author(s): A.L. Auclair, P. Moser

SUMMARY:
Background: Levomilnacipran (1S, 2R-milnacipran), the more pharmacologically active enantiomer of milnacipran, is a potent and selective serotonin/norepinephrine reuptake inhibitor (SNRI) in late-stage clinical development for treatment of major depressive disorder (MDD). Considering that MDD is accompanied by co-morbid cognitive/mnesic deficits, such as working memory, LVM was tested in a rat model of this type of memory, the delayed non-matching to position (DNMTP) test.
Methods: Rats were presented with a single lever (right or left, randomly chosen) for 10 s. Following a press during this period, the lever was retracted, and both levers were simultaneously presented after a 1, 20 or 50 s delay (randomly applied). Pressing the correct lever (i.e. the one not presented before the delay) within 10 sec resulted in the delivery of a food pellet and retraction of both levers. A new trial (presentation of a single lever) was initiated 5 sec later. Once trained and stabilized, rats were injected (bid, ip, 5 days) with LVM, duloxetine and venlafaxine (reference SNRIs) and tested on the last day of treatment.
Results: LVM (10 and 20 mg/kg), significantly ($p<0.05$) increased the % correct responding at 10 mg/kg for the 50 s delay (from 47% to 59%), with a trend only at 20 s (from 62% to 71%); duloxetine (0.63 and 2.5 mg/kg) and venlafaxine (2.5 and 10 mg/kg) were inactive. In a 2nd experiment, LVM (5-15 mg/kg) was confirmed to be active, as it significantly ($p<0.01$) increased the % correct responding for the 20 s delay at 10 mg/kg (from 53% to 71%), with a trend only at 5 mg/kg (from 53% to 65%). Duloxetine and venlafaxine were not re-tested.
Conclusions: LVM, administered sub-chronically for 5 days, improved working memory performance in the DNMTP model in the rat, suggesting a potential efficacy to alleviate co-morbid cognitive deficits in MDD patients.

Poster 3-35

CLOZAPINE AUGMENTATION STRATEGIES FOR SUPER REFRACTORY SCHIZOPHRENIA

Lead Author: Ganesh Kudva, M.B.B.S.

SUMMARY:
Background: Super-refractory Schizophrenia, of which there is yet no clearly delineated definition, has of late received burgeoning research interest. The concept encompasses the approximately 40-70% of individuals who have been diagnosed with Treatment Resistant Schizophrenia, who themselves subsequently do not respond to Clozapine therapy. This non-response often carries serious implications for the patient and his/her family, and in turn results in a significant socioeconomic burden to society. Hence the question on what to do once Clozapine fails arises.
Methods: Comprehensive review of available literature of Clozapine Augmentation strategies, with papers scoring clinical change, by way of PANSS and BPRS, focussed on. Augmentation strategies include pharmacological therapies, ECT and non-pharmacological strategies.
Conclusions: Our research thus far highlights the great dearth of standardisation between various treatment centres in defining treatment resistance, and insufficient information to produce a clearly defined algorithm. However a multidisciplinary approach involving pharmacological and non-pharmacological therapies appears to render maximal benefit.

Poster 3-36

INVESTIGATION OF EPISTATIC INTERACTIONS BETWEEN GRIA2 AND GRIA4 VARIANTS ON CLINICAL OUTCOMES IN PATIENTS WITH MAJOR DEPRESSIVE DISORDER

Lead Author: Tae-Youn Jun

SUMMARY:
OBJECTIVE: Increasing evidence suggests that alterations in the glutamatergic system could influence the response to antidepressants. However, results from studies focusing only on single nucleotide polymorphisms (SNPs) have been largely inconsistent or associated with very small effect sizes. Therefore, in the present study we aimed to investigate the existence of epistatic interactions possibly influencing antidepressant response between rs4260586 within GRIA2 and rs10736648 within GRIA4 in a sample of 145 Korean patients with major depressive disorder (MD) treated with different antidepressants.
METHODS: All patients were administered with the Montgomery-Asberg Depression Scale (MADRS) at baseline and at endpoint. A multiple regression model was employed to investigate the existence of possible epistatic interactions between the two SNP variants and clinical/socio-demographical variables included in the present study. RESULTS: No significant interaction was observed between rs4260586 within GRIA2 and rs10736648 within GRIA4 on both MADRS improvement scores and other clinical/socio-demographic variables.
CONCLUSION: Taking into account the several limitations of our study including the small sample size, the use of different antidepressants and the incomplete coverage of genes under investigation, we suggest that future research could investigate whether our results hold in larger samples of MD patients treated with different antidepressants or whether the investigation of different SNPs and/or different gene-gene interactions within other genes involved in the glutamatergic system might lead to different results.

Poster 3-37

EFFECTS OF RISPERIDONE AND ARIPIPRAZOLE ON NEUROCOGNITIVE REHABILITATION FOR SCHIZOPHRENIA

Lead Author: Yasuhiro Matsuda, M.D.

Co-Author(s): Sayaka Sato, PhD, Kazuhiko Iwata, MD, MPH, Shunichi Furukawa MD3, Norifumi Hatsuse, MD, Yukako Watanabe, MD, Nobuo Anzai MD, PhD, Norifumi Kishimoto, MD, PhD, Emi Ikebuchi, MD, PhD

SUMMARY:

Aims: Methods to improve neurocognitive impairments are of important research interest. This study sought to examine the synergistic effects of neurocognitive rehabilitation and antipsychotics for schizophrenia. Methods: Forty-three schizophrenia patients were engaged in computer-based cognitive exercises over a 12-week period. We compared the effects of risperidone and aripiprazole in neurocognitive rehabilitation. Results: Processing speed marginally but significantly improved in the rehabilitation-risperidone group compared with the control-risperidone group. Working memory and motor speed marginally but significantly improved in the rehabilitation-aripiprazole group compared with the control-aripiprazole group. A two-way ANOVA with neurocognitive rehabilitation and antipsychotic medication as factors revealed a significant interaction effect on motor speed.

Conclusions: Among patients receiving risperidone, the effect of neurocognitive rehabilitation might result in improvement of processing speed. Among patients receiving aripiprazole, neurocognitive rehabilitation appeared to improve working memory and motor speed. A synergistic effect of neurocognitive rehabilitation and aripiprazole was observed as improvement of motor speed.

Study ethics: The institutional review boards at each site approved this study. All authors report no conflict of interests.

Poster 3-38

THE PSYCHOSOCIAL STATUS AND QUALITY OF LIFE OF PATIENTS WITH SCHIZOPHRENIA IN A COMMUNITY

Lead Author: Chang Hyun Jang, M.D.

Co-Author(s): Dong Hyun Ahn, MD, PhD, Jeong Im Lee, B.A, RN Yong Chon Park, MD, PhD, Aran Min, MD In Hwan Hwang, MD

SUMMARY:

The object of this study was to identify the relationship between QoL and psychosocial characteristics of patients with schizophrenia in a community. The subjects were 94 schizophrenic patients living in a community. QoL was assessed by 2 QoL questionnaires (SQLS-R4K and KmSWN). The psychopathology was assessed by BPRS. K-CDSS is for assessing depressed mood. SAUMD is for assessing insight. SSS is for assessing social support and conflict. DAI is for assessing attitude toward drugs. SSI is for assessing suicidal ideation. The correlation between the scores of each quality of life scale and other scales was examined, and multiple regression analysis was performed to analyze the contribution of the QoL scale to other psychosocial characteristics. QoL increases according to the lower level of the suicidal ideation, higher level of social support, the lower level of social conflict, better drug compliance, lower level of the severity of symptoms, lower level of depression. QoL by the SQLS-R4K is affected by the severity of the suicidal ideation and the depressed mood, and QoL by the KmSWN is affected by the suicidal ideation, the perceptions of social support and conflict. QOL of schizophrenic patients in a community is affected by depressed mood and social support and conflict rather than psychotic symptom and attitude toward drugs. And theses suggests the necessities of approaching to the psychosocial characteristics in treating schizophrenic patient in community.

Poster 3-39

CHALLENGES IN THE MANAGEMENT OF COMORBID SCHIZOPHRENIA AND MACROPROLACTINOMA: A CASE REPORT

Lead Author: Ching Ching Sim,

Co-Author(s): Cheng Lee, M.B.B.S., M.D., F.A.M.S.

SUMMARY:

Background: Most of the available antipsychotic agents primarily act as dopamine receptor antagonists, which may lead to hyperprolactinaemia. Hyperprolactinaemia can be caused by a number conditions including Prolactin-secreting pituitary tumors. Dopamine agonist have been used for the management of prolactinomas but it has been known to precipitate psychotic symptoms. Micro and Macroprolactinomas differ in their response to various modes of treatment. Here we describe challenges in the management of a patient with schizophrenia who developed macro-prolactinoma requiring treatment with a dopamine agonist.

Methods: A 44 year old male patient with a diagnosis of schizophrenia has been on antipsychotic medication over 15 years before he developed complaints of bilateral gynaecomastia associated with milky discharge. Investigations revealed serum prolactin levels >10000mIU/L with low serum FSH, LH and testosterone levels. ACTH, Thyroid function tests and growth hormone levels were within normal limits indicating hyperprolactinaemia with secondary hypogonadism. As part of the endocrine work-up, a magnetic resonance imaging (MRI) scan of pituitary fossa was obtained which revealed a pituitary enlargement (1.5 cm x 1.8 cm x 1.1 cm) with no evidence of mass effect or bony breach suggestive of pituitary macroadenoma most likely representing a prolactinoma. Further to consultation with Endocrinologist, he was commenced on a dopamine agonist, Cabergoline 0.25 mg twice a week together with his antipsychotic medication. With this treatment his endocrine profile improved with reduction in serum prolactin levels to just above 2000mIU/L with improvement in serum testosterone levels. When the dose of Cabergoline was increased to 0.5 mg twice a week, patient developed relapse of his psychotic illness characterized by prominent persecutory delusions and disorganized behaviours. He was not co-operative with follow up appointments with the Endocrinologist or monitoring of serum prolactin levels. Subsequently, the dose of Cabergoline was reduced to 0.25 mg twice a week, but his condition continued to worsen requiring admission to hospital.

Results: During hospital admission, a decision was taken to discontinue Cabergoline temporarily following discussion with patient, his family and the Endocrinologist. Subsequently patient showed significant improvement in his psychotic symptoms. With the improvement in his condition, patient initially agreed for further follow up with Endocrinologist and was discharged from the hospital. However, despite being stable in his mental condition, he has continued to refuse further follow up or monitoring with the Endocrinologist.

Discussion: This case highlights the challenges in managing psychotic patients with comorbid prolactinomas requiring dopamine-agonist therapy. Authors would like to discuss the complexities and options in management of such patients, in particular, Macro-prolactinomas.

Poster 3-40

SHORT- AND LONG-TERM OUTCOME EFFECTS OF COGNITIVE BEHAVIOR THERAPY WITH INPATIENTS WITH ANOREXIA AND BULIMIA NERVOSA

Lead Author: Rolf Meermann, M.D.
Co-Author(s): Ernst-Jürgen Borgart, PhD

SUMMARY:
Short- and long-term effects of inpatient cognitive behavior therapy treatment with anorexia and bulimia nervosa patients are analyzed. Short-term effects were investigated with 1226 inpatients with anorexia nervosa (AN) or bulimia nervosa (BN) of the AHG Psychosomatic Hospital Bad Pyrmont/Germany. Almost all patients were female (97%). The mean age was 27.7 years old. The mean duration of the eating disorder was 8.7 years. Our patients received cognitive behavior therapy treatment lasting 56 days on average. At the end of treatment patients filled out a therapy-outcome questionnaire. Additionally, our therapists rated therapy-outcome from their own view. Long-term effects were analyzed in a 2-year follow-up study with 23 inpatients. At the beginning (T1), end of treatment (T2) and two years after discharge (T3) patients were personally interviewed. The effectiveness of therapy was measured by several questionnaires: Psychosomatic Symptom Check- List (PSCL), Beck Depression Inventory (BDI) and Beck Anxiety Inventory (BAI) as well as questionnaires for satisfaction in life, coping with stress and quality of sleep. Short-term effects: 91% of our patients are more or less satisfied with their treatment results. 87% of the therapists state that their patients did more or less improve overall. A reduction of symptoms is rated by 95% of our patients and 91% of the therapists. The ratings of therapy-outcome by therapists and patients are significantly correlated: r=.44 and .42 (p<.001). Therapists seem to be a bit more critical in their ratings. Long-term effects: T-tests show that in almost all measures patients improved significantly (p<.05 to p<.001) from T1 to T2. After T2 patients nearly maintained their progress or even continued to improve slightly. So in all measures the differences from T1 to T3 are significant (p<.05 to p<.001). Our results show that cognitive behavior therapy has substantial therapeutic effects which are relatively stable up to two years.

Poster 3-41

MANAGING ADHD IN ADULTHOOD: A META-SYNTHESIS OF HOW ADULTS DIAGNOSED WITH ADHD MANAGE LIFE WITH THE SYMPTOMS

Lead Author: Merete Bjerrum, M.A., Ph.D.
Co-Author(s): Preben Ulrich Pedersen, Palle Larsen

SUMMARY:
Background: Attention Deficit-Hyperactivity Disorder (ADHD) is related to four dimensions: inattentiveness, restlessness, impulsivity and hyperactivity. The onset of the disease is in childhood. Some grow out of the ADHD-symptoms, but 80% continue to have symptoms throughout the lifespan. A prevalence of 4.4% ADHD symptoms are associated with impairment and affect multiple areas of daily life such as social relations, education and employment. But how do the adult experience ADHD symptoms affect the management of daily life skills? And which factors support their ability to manage the symptoms?
Aim: Our aim is to synthesize the existing literature to investigate how adults experience and manage life with ADHD, and to study the protective factors supporting them to live with the symptoms.
Methods: A meta-synthesis including studies derived from PubMed, CINAHL, Embase and PsychINFO, using the keywords: Attention Deficit Hyperactive Disorder, Quality of Life, family, social support, adaption, psychological, educational, education, daily life skills, manage to live, life impairment, social life skills, attitude, coping behaviour, academic functioning, social adjustment, interpersonal relation, family health, social support, adult 19- 44 years, middle aged 45-64 years.
Results: Four themes emerged from the included studies: 'Being different from others'; 'gaining insight into ADHD and thereby self-awareness'; 'personal support to navigate in daily life' and being organised to prevent chaos'
Conclusion: Adults with ADHD want to be accepted as equals in their communities, but they often feel different and misinterpreted. Relatives and professionals can assist by advising and coaching them and not least by standing up for them.

Poster 3-42

EFFECTS OF ANTIPSYCHOTICS POLYPHARMACY OVER COGNITIVE FUNCTIONS AND QUALITY OF LIFE IN PATIENTS WITH SCHIZOPHRENIA AND SCHIZOAFFECTIVE DISORDER

Lead Author: Koksal Alptekin, M.D.
Co-Author(s): Ceylan D, Ye?ilyurt S, Akdede BB, Topuzo?lu A, Ersoy Z, Diriöz M

SUMMARY:
Antipsychotic polypharmacy refers to use of two or more antipsychotics at the same time. Although there is not enough evidence showing advantages of combined antipsychotics treatment compared to monotherapy of antipsychotics in schizophrenia regarding efficacy and tolerability issues, antipsychotic polypharmacy remains a common and widespread practice in clinical settings, showing an increasing trend by time. In this study we aimed to investigate the disadvantages of using antipsychotic polypharmacy in treatment of schizophrenia. Two or more antipsychotics use at the same time may be related to increase in side effects, decrease in quality of life and cognitive functions.
Ninety-eight patients with DSM-IV schizophrenia and schizoaffective disorder were included into the study and randomized to monotherapy and antipsychotic polypharmacy groups according to their medication profile. PANSS, CGI-S, Calgary Depression Scale, UKU Side Effect Rating Scale, and Heinreich's Quality of Life Scale were used to evaluate clinical characteristics of the patients. All the subjects were administered neurocognitive test battery assessing verbal learning memory, executive functions, verbal fluency, attention and verbal working memory via Rey Auditory Verbal Learning Test, Controlled Oral Word Association Test, Digit Span Test, Trail Making, Stroop Test, Auditory Consonant Trigarm Test, Wisconsin Cart Sorting Test. Sixty percent of all the patients were using antipsychotic polypharmacy and had increased significant PANSS scores and UKU side effects, less significant symptomatic remission levels and quality of life scores. They were using more anticholinergic medicines and depot antipsychotics. Patients in antipsychotic polypharmacy group had significant impaired cognitive functions, regarding especially executive functions, verbal learning, and working memory, compared to patients using antipsychotic monotherapy.
Although there is not enough evidence of antipsychotic polypharmacy efficacy, it may have disadvantages regarding side effects, cognitive disability and quality of life.
Key Words: antipsychotic polypharmacy, monotherapy, schizophrenia, cognition, side effects, quality of life.

Poster 3-43

PSYCHOSYS SECONDARY TO PROLACTINOMA

Lead Author: Edwing O. Garcia Toro, M.D.

Co-Author(s): Americo Reyes Ticas MD Edwing Octavio Garcia Toro MD, Xenia Aguilera MD

SUMMARY:

Male patient, 61 years old, worked as a security guard at night. Five years ago started with apathy for personal care, did not want to work, had ideas of persecution and injury but they were striking for family. Six months before being admitted to the Psychiatric Hospital has insomnia, irritability progresses to psychomotor agitation, and it is brought to the ER. At the time of admission, he was disoriented, hostile, agitated, and with thought characterized by a high content delusional without any insight. At neurological examination found no sign of targeting. A space-occupying lesion below, intra and suprasellar is showed on brain CT. The patient did not present any alteration in visual perimetry and neuropsychological testing shows mild cognitive impairment. The prolactin value was 4.700 ng / mL, suggesting a macroprolactinoma. Discussing the case with neurosurgery and psychiatry decided joint management and start with the use of clozapine and Cabergoline, showing rapid improvement in the first two weeks of treatment. After two months a control is performed by finding a fully coherent speech, no delusions, and BPRS for negative and positive symptoms score shows within normal limits in relation to the time of initiation of treatment with cabergoline and clozapine. Prolactin levels were down to normal levels and cognitive function is normal neuro-psychological testing. The relationship between biochemical alterations that occur in the brain, hormonal changes and psychopathological manifestations that occur in patients with endocrine and psychiatric affectations simultaneously the object of study in the field of neuropsicoendocrinology. Alterations in neuroendocrine correlates, bi-directional, with mental disorders, which predominate in psychotic and affective phenomena. The prolactinoma (PRL), prolactinsecreting tumor, pituitary adenoma is the most common constituting 40% -45% of all pituitary adenomas. Many drugs can cause increased prolactin but usually do not in numbers above 100 ng / ml. (Normal: men: 2-18 ng / ml, women who are not pregnant: 2-29 ng / ml and pregnant women: 10 to 209 ng / ml) Therefore prolactin numbers between 100-200 ng / ml should make us think of a tumor, either prolactinoma, or other tumor or parasellar sellar compressing the pituitary stalk. This is very important in the therapeutic approach since PRL always subsidiary of drug treatment. The relationship between psychotic symptoms and hyperprolactinemia is well established since in the absence of target gland hormones to make a feedback control with lactotrophs, PRL regulates its own release by acting on hypothalamic dopaminergic systems This type of interaction has called "short feedback loop" and is primarily responsible for maintaining the homeostasis of the PRL. PRL ie mainly regulated by inhibitory dopaminergic mechanism.

Poster 3-44

DESCRIPTIVE EPIDEMIOLOGY OF VITAMIN D DEFICIENCY IN A SINGAPORE HOSPITAL: A PILOT STUDY

Lead Author: Lycia Teo, M.B.B.S.

SUMMARY:

Vitamin D plays a seminal role in many of the homeostatic processes in the body. Humans get Vitamin D from the diet, dietary supplementation and exposure to sunlight. With advances in the world's social and nutritional status, it was once thought that Vitamin D deficiency was a thing of the past. However, recent studies have shown that Vitamin D deficiency continues to be endemic in the modern developed world. As a result, of this, and its many potential consequences, Vitamin D deficiency has become more researched and publicized than the rest of the water and fat soluble vitamins combined. Epidemiological studies have linked Vitamin D deficiency to a myriad of diseases. It has been found to contribute to the development of psychiatric illnesses such as depression and schizophrenia, certain cancers, immune system dysfunction, cardiovascular, kidney and metabolic diseases. Despite recognition of the magnitude of the problem and increasingly large scale research occurring in the international arena, little research has been done in the Singapore setting with regards to the prevalence of Vitamin D deficiency and its associated disease conditions. The nature and degree to which to problem exists will be unique to every country's geographical position, altitude and climate. As such, it is important to obtain an accurate assessment of its epidemiology in order to suggest and plan reliable healthcare policy. This study will provide invaluable insights into the nature and extent of the problem in the local population. It will also serve as a platform to launch a prospective study on the possible effects of Vitamin D deficiency and its relation to various psychiatric conditions.

Poster 3-45

WORKSHOPS IN INDIAN CONFERENCES: DO THEY STILL NEED TO REMAIN A "NOT SO POPULAR" SCIENTIFIC-CUM-EDUCATIONAL ACTIVITY?

Lead Author: Nitin Gupta, M.D.

Co-Author(s): Priti Arun, BS Chavan

SUMMARY:

INTRODUCTION: Workshops are an integral component of the scientific programme of any mental health conference. They provide an opportunity to undergo practical demonstration and learning of skills by focused interaction with generally a limited number of participants. Historically, workshops have not been very popular in the national/local conferences in India. Conversely, symposia tend to be much more favored as submissions by participants and organizers alike. As there are no available reasons for the same, we wanted to understand the underlying reasons. We hypothesized that workshops are not appreciated and not considered appropriate and relevant.

METHODS: We organized the 19th National Conference of the Indian Association for Social Psychiatry where for the first time a large number of workshops were held (8 in total; 4 each by National and International Faculty). After obtaining informed consent, all participants were asked to fill up a Feedback Form regarding the particular workshop with a general question on the need for having workshops for the future.

RESULTS: 115 participants attended the 8 workshops comprising nearly 20% of total delegates; 72 for those conducted by National and 43 by International faculty. 114/115 (99%) wanted such workshops to continue. 2/115 (2%) did not find the faculty to be interactive. There was none who rated the workshop content to be 'not interesting/relevant; discussion and level of learning to be 'not appropriate.

CONCLUSION: Workshops were well attended and seem to be a popular and desirable activity. It is hypothesized that the over-reliance on symposia (relatively passive learning) than workshops (interactive, more active learning) may possibly be due to a combination of the traditional 'Indian' (psychological) personality construct of dependence of the participants and a hierarchical psychological construct/model of the conference organizers/faculty. Further concerted efforts are required to modify the mind-set of organizers and delegates in the Indian conferences in order to popularize this scientific forum and provide parity with other forums (e.g. symposia etc.).

Poster 3-46

PHQ-2 AS A SCREENING TOOL FOR DEPRESSION AFTER STROKE

Lead Author: Lynnette Pei Lin Tan, M.B.B.S., M.Med.
Co-Author(s): Chew Wuen Ming Nicholas, MBBS, MMed, Tham Wai Yong, MBBS, MMed, Jaspal Singh Dhaliwal, MBBS, MMed, Ang Lye Poh Aaron, MBBS, MMed, MRCP,

SUMMARY:
BACKGROUND Depression is the most commonly occurring psychiatric disorder after stroke. Many studies on post-stroke depression are unable to perform a full structured clinical interview for patients due to its laborious and time-intensive nature. The main purpose of this study was to investigate the diagnostic value the 2- item Patient Health Questionnaire (PHQ-2) in patients with post-stroke depression in an inpatient rehabilitation setting in Singapore.
METHODOLOGY This was a prospective study of consecutive patients admitted to an inpatient rehabilitation setting, following a stroke, between December 2008 – December 2009. Patients with Abbreviated Mental Test ?6 were included. Baseline clinical and demographic information was obtained. The PHQ-2 was used to screen patients for depressive symptoms. All subjects were also administered the criterion standard Structured Clinical Interview for Depression (SCID). The assessments were conducted at discharge (2-6 weeks from stroke diagnosis). Receiver operating characteristic (ROC) analysis was used to examine the sensitivity and specificity of the PHQ-9.
RESULTS Of the 258 patients included in the study, 4.26% were depressed and 12.4% were diagnosed with adjustment disorder using the SCID. Mean age was 60.2 years. 162 (62.8%) were male. 79.1% were Chinese, 12.8% Malay and 4.3% were of Indian ethnicity. For the screening of both depression and adjustment disorders, the PHQ-2 performed best at a score ?1 with a sensitivity of 0.77 (95% CI 0.61 – 0.88) and a specificity of 0.61 (95% CI 0.54 – 0.67), PPV of 0.29, NPV of 0.93. For the screening of major depression, the PHQ-2 performed best at a score ?1 with a sensitivity of 0.82 (95% CI 0.48 – 0.97) and a specificity of 0.56 (95% CI 0.50 – 0.63), PPV of 0.08, NPV of 0.99.
DISCUSSION This is the first study of its kind conducted in an Asian post-stroke population investigating the value of the PHQ-2 as a screening tool. With large numbers of false positives and few false negatives, a positive PHQ-2 is in itself poor at confirming the presence of depression or adjustment disorders and further assessments must be undertaken. However as a screening test, a negative result is good at reassuring that a patient does not have depression or adjustment disorders (NPV = 0.93).
CONCLUSION Suitability criteria of a good screening tool typically includes adequate sensitivity and specificity, low cost, ease of administration, safe, imposes minimal discomfort upon administration, and is acceptable to both patients and practitioners. Our study suggests that the PHQ-2 is a good screening tool for depression and adjustment disorders for use in the Asian post-stroke population. Screening for depression and related disorders is important as early intervention and treatment where necessary may limit the impact of post-stroke depression on subsequent functional impairment and quality of life.

Poster 3-47

BULLYING IN COLLEGE STUDENTS

Lead Author: Jacqueline Cortes
Co-Author(s): Luz Maria Alvarez, Norma de Jesús Yepez Garcia, Francisco Romo Nava, Jose Francisco Cortes Sotres,Gerhard Heinze Martin

SUMMARY:
Introduction. Bullying is a serious problem in schools because it can lead to extreme violence such as massacres and suicide. There is no evidence that bullying disappears at college level, there are very few studies evaluating the magnitude of the problem and the symptoms it produces. The purpose of this study was to determine the frequency and characteristics of bullying in undergraduates of the National Autonomous University of Mexico (UNAM).
Method. 1317 student voluntarily participated, (677 women and 640 men), from pre-college or undergraduate levels from all schools and departments of UNAM, located in Mexico City and its surrounding areas. Survey about bullying among colleagues in schools (Cuestionario sobre las Relaciones de Maltrato e Intimidación entre Compañeros y Compañeras en las Escuelas, CURMIC, 2010) was applied with adaptations to college students. Sampling was proportional stratified. The stratification variables were age, gender and school or department. The sample was taken per quota.
Results. The results indicate that the form of aggression that occurs most frequently among students is the verbal 22.85%, followed by isolation and exclusion that occurs 20.1%; and physical damage, 12.9%. 44.1% of students claim that bullying occurs without teachers being aware. The 28.15% of the victims say they are attacked for being different from others. The 46.5% of perpetrators claim that their attacks are jokes. Male students bully significantly more than females.
Conclusion. As seen bullying is a problem that must be faced in higher education institutions.

Poster 3-48

MEASURE OF STUDENTS´ COMFORT IN A MEDICAL SCHOOL IN SANTIAGO DE CHILE WEIL MEDICAL SCHOOL, UNIVERSIDAD DE LOS ANDES, SANTIAGO, CHILE

Lead Author: Kristina Weil Parodi, M.D., M.Ed.

SUMMARY:
The medical study has been associated with high rates of personal stress. Different variables influences mental health, learning process and academic performance of students. We measure several aspects to obtain an overview of indicators of the students´ wellbeing. Students of the first 5 years of the Medical School of Universidad de los Andes, a traditional curriculum school, were evaluated using the Dundee Ready Educational Environment Measure (DREEM), the Academic Stress Inventory IEA, the stress scale EGPE.and a self designed survey including sociodemographic, academic, personal and logistic aspects. 353 students were evaluated, near 90% of the universe, 53,4% were female. The general DREEM rate was 125,5 points, the lowest in the 3rd and the highest in the 1st year. The 4th year students showed the highest results on the EGPE stress scale. The Academic Stress IEA scale showed homogeneous results between the career levels, with the highest score in the 3rd year. The women showed higher rates of Academic stress. The partial DREEM sub-scales and the stress scales were crossed with the academic performance and other aspects. The evaluation of the educational environment was good. The third year students seemed to be more uncomfortable. The women declare more academic stress.

Poster 3-49

CORRELATION BETWEEN INSIGHT DIMENSIONS AND COGNITIVE FUNCTIONS IN PATIENTS WITH DEFICIT AND NONDEFICIT SCHIZOPHRENIA

Lead Author: Claudio E. M. Banzato, M.D., Ph.D.

Co-Author(s): Luiz F. L. Pegoraro, Clarissa R. Dantas, Daniel Fuentes

SUMMARY:

Previous studies have shown correlations between poor insight and neurocognitive impairment in schizophrenia. Deficit schizophrenia has been associated with worse cognitive functioning and poorer insight. This study aimed at investigating the relationship between insight dimensions (measured by SAI-E and its factors) and specific neurocognitive functions (assessed through a battery of neuropsychological tests) considering separately patients with deficit (n=29) and nondeficit schizophrenia (n=44), categorized according to the SDS. We found that working memory correlated positively and significantly with awareness of mental illness in both groups. In nondeficit group, awareness of mental illness correlated additionally with verbal fluency and attention. If confirmed by further studies, these results may have important consequences, such as the need of tailoring differently cognitive rehabilitation for each group.

Poster 3-50

EMOTIONS IN STAR TREK: THE CHANGE IN PERCEPTION OF MENTAL ILLNESSES AND ITS TREATMENT DURING THE LAST FORTY-FIVE YEARS

Lead Author: Mona Abdel-Hamid

Co-Author(s): M. Grabemann, M. Kownatka, T. Zwarg, M. Zimmermann, Chr. Mette, J. Wiltfang, B. Kis

SUMMARY:

Introduction: "Star Trek"® was an American television series produced between 1966 and 1969. The development of space travel and the subsequent increased interest in science fiction based topics have led to four further spin-off series and eleven feature films to date. The so-called "Star Trek universe" portrays humankind and society on two levels (Barrett & Barrett, 2001): On the one hand, it depicts a utopic image of a morally evolved humanity which has overcome prejudices and lives in peace. On the other hand, events and issues current at the time of production have also informed the themes dwelt on in the respective series and movies. Thus, Star Trek effectively reflects the evolving interest and understanding of topics that society and scientific disciplines (e.g. medicine, biology, sociology, philosophy) have been engaged in and moved by in the forty-five years of its existence. Star Trek may thus be examined as to the extent to which societal perception of mental diseases and treatment has changed during the last five decades.

Method: In order to analyze the supposed change in perception of delineated mental phenomena in the course of production time, we evaluated the entire video material with regard to mental disorders and its treatment, using the operationalized diagnoses according to ICD-10.

Results: Along with "fictional" mental illnesses, "real" diseases and their treatment have been progressively brought into focus (e.g. dementia, addiction, depression, social phobia, specific phobia, posttraumatic stress disorder, adjustment disorder).

Conclusion: On the basis of our analysis of all Star Trek material filmed between 1966 and 2009, we have found that a significant societal change in the perception and evaluation of psychological problems may be detected. In the 1960s, one generally perceives a critical attitude towards psychological diseases as well as a focus on medical treatment while from the 1980s onwards, there has been an increasing depathologization of psychological diseases in presenting human reactions and diseases as natural and comprehensible events. Moreover, they have gradually come to present psychological treatment as an important means to alleviate suffering.

References:

Barrett, M. & Barrett, D.(2001). Star Trek: The Human Frontier. Routledge. New York

Poster 3-51

SELF-REPORTED PSYCHOSOMATIC HEALTH IN SWEDISH CHILDREN ADOLESCENTS AND YOUNG ADULTS LIVING IN RURAL AND URBAN AREAS: AN INTERNET-BASED SURVEY

Lead Author: Walter Osika, M.D., Ph.D.

Co-Author(s): Katarina Laundy Frisenstam, MSc Psych, Lic Psych, Peter Friberg, MD, PhD

SUMMARY:

Aim: To investigate, by the use of internet, the self-reported psychosomatic health (SPH) in large groups of young people, 10 to 24 years of age, in Sweden, with a particular focus on examining groups in major city areas vs. minor city/rural areas.

Methods: Cross-sectional study with validated questions launched in a controlled way onto the internet by a recognized Swedish community site, with 100 000-130 000 unique answers per question. This enabled subjects to answer the items whilst they were logged in to their personal domain. The results were analyzed cross geographically within Sweden.

Results: Subjects of both sexes generally reported higher levels of SPH complaints in major city areas in compared to minor city/rural areas. Conclusion: Higher levels of SPH complaints appears to correlate with living in major city areas in comparison to minor city/rural areas, in young people aged 10-24 years.

Poster 3-52

DISCHARGED ONE-YEAR OF PSYCHO-SOCIAL FUNCTION IN PATIENTS WITH DEPRESSION RECOVERY

Lead Author: Ning Zhang, M.D., Ph.D.

SUMMARY:

Objective: explored the recovering procession of depression patients after their out-hospital in the first year.

Methods: Using our own questionnaire, 119 depression patients were inquired by letters about their recovering in 1 year after their came out hospital.

Results: (1)the questionnaire could be clustered into four factor, which were physicrecovering, psycho-recovering, social-recovering, and help-searching; (2)as a whole, the recovering percent was below 80%; (3) in Psychorecovering? F=4.686?P=0.032? and Help-searching?F=5.595,P=0.020?, significant difference was found; (4) the same thing came out in different economic statue(F=-2.512,P=0.015; F=-2.477,P=0.015).

Conclusion: (1) To depressed patients who out hospital, it is a long way to recovering; (2)gender and economic statue were the important factors in procession of depressed people recovering

Poster 3-53

PRESCRIPTION PATTERNS FOR KOREAN PATIENTS WITH SCHIZOPHRENIA: AN ANALYSIS OF A NATIONWIDE OUT-PATIENT SAMPLE DATABASE

Lead Author: Sewoong Kim, M.D.

Co-Author(s): Han-Yong Jung, MD, PhD, Kyoung-Sae Na, MD, Soyoung Irene Lee, MD, Shin-Gyeom Kim, MD, Seung-Hwan Sung

SUMMARY:

Objective: We investigated psychiatric medication prescription patterns for patients with schizophrenia in an actual clinical practice.

Methods: We analyzed a nationwide out-patient sample database at 2009 provided by the Health Insurance Review and Assessment Service. Sample data were designed to reliably represent the demographic and clinical characteristics of the total patient population. Eligible participants were patients with schizophrenia who were not admitted during the 1-year period.

Results: A total of 9,029 medications for 2,156 visits to the outpatient psychiatric department were extracted. The mean number of psychiatric drugs per visit was 4.19 (2,156/9,029). The most frequently prescribed antipsychotic was risperidone (n = 3,049, 33.77%), followed by haloperidol (n = 1,184, 13.11%), chlorpromazine (n = 1,139, 12.61%), quetiapine (n = 800, 8.86%), olanzapine (n = 687, 7.61%), and aripiprazole (n = 569, 6.30%). The frequency of prescriptions for first-generation antipsychotics was 4,048 (44.83%), whereas that for second-generation antipsychotics was 4,981 (55.17%). Patients receiving typical antipsychotics (mean, 44.39; standard deviation [SD], 10.42 years) were significantly older than were those receiving atypical antipsychotics (mean,40.54; SD, 12.50 years). Additionally, typical antipsychotics were prescribed significantly more frequently for male patients (n = 2,460) than for female patients (n = 1,588). The single most frequently prescribed drug was benztropine (n = 4,031, 44.65%), followed by risperidone (n = 3,049, 33.77%), diazepam (n = 1,771, 19.61%), and lorazepam (n = 1,695, 18.72%).
Conclusions: Future research should examine the sociodemographic characteristics of individuals receiving antipsychotic prescriptions as well as contribute to a strategy to reduce use of adjuvant medications such as anticholinergics and benzodiazepines.

Poster 3-54

A RANDOMISED, DOUBLE-BLIND, PLACEBO-CONTROLLED, DULOXETINE-REFERENCED STUDY OF THE EFFICACY AND SAFETY OF VORTIOXETINE IN ACUTE TREATMENT OF MDD

Lead Author: Jean-Philippe Boulenger, M.D.
Co-Author(s): Loft H, M.Sc., Olsen CK, Ph.D.

SUMMARY:
Objective: Vortioxetine (Lu AA21004) is an investigational multimodal antidepressant thought to work through a combination of 2 pharmacological modes of action: serotonin (5-HT) receptor activity modulation and 5-HT reuptake inhibition. This multi-national study assessed the efficacy, tolerability, and safety of 2 fixed doses of vortioxetine (15 and 20mg/day) versus placebo in adult patients with major depressive disorder (MDD).
Methods: This double-blind, randomised, fixed-dose, placebo-controlled, active reference 8-week study included 610 patients with a primary diagnosis of recurrent MDD with a current major depressive episode (MDE) >3 months in duration, a MADRS total score ?26 and a CGI-S score ?4. Patients were randomly assigned (1:1:1:1) to vortioxetine 15mg/day, vortioxetine 20mg/day, duloxetine 60mg/day (active reference), or placebo for 8 weeks. The primary efficacy endpoint was a mixed model for repeated measurements (MMRM) of the change from baseline in MADRS total score at Week 8 adjusting for multiplicity using a hierarchical testing procedure, analyzed separately for each dose. Key secondary endpoints at Week 8 were: MADRS responders; CGI-I score; MADRS total score in patients with baseline HAM-A ?20; remission (MADRS ?10); and Sheehan Disability Scale (SDS) total score. Safety and tolerability assessments included adverse events (AEs), clinical safety laboratory values, vital signs, weight, and ECG parameters.
Results: On the primary efficacy endpoint, both doses of vortioxetine were statistically significantly superior to placebo in mean change from baseline in MADRS total score at Week 8 (MMRM), with a mean treatment difference to placebo (n=158) of -5.6 (vortioxetine 15mg, p<0.0001, n=148) and -7.1 points (vortioxetine 20mg, p<0.0001, n=151). Duloxetine (n=146) separated from placebo, confirming assay sensitivity. Separation from placebo was seen from Week 2 onwards (vortioxetine 20mg and duloxetine) and Week 4 onwards (vortioxetine 15mg). In all predefined key secondary analyses, both doses of vortioxetine were statistically significantly superior to placebo. The withdrawal rate due to all reasons was 16.6% (15.8% placebo, 22.5% vortioxetine 15mg, 17.2% vortioxetine 20mg, and 10.9% duloxetine). Overall, treatment was well tolerated; the most commonly reported AEs (?5%) were nausea, headache, diarrhoea, dry mouth, dizziness and hyperhidrosis. No clinically relevant changes were seen in clinical safety laboratory values, weight, ECG or vital signs parameters.
Conclusions: Vortioxetine (15 and 20mg/day) was efficacious and well tolerated in the treatment of adult patients with recurrent major depressive disorder.
Trial Registration: This study has the ClinicalTrials.gov identifier NCT01140906.
Commercial support: This study was funded by H Lundbeck A/S and the Takeda Pharmaceutical Company, Ltd.

Poster 3-55

EATING DISORDERS IN A SAMPLE OF ADOLESCENTS WITH BORDERLINE PERSONALITY DISORDER

Lead Author: Alexandra Pham-Scottez, M.D., Ph.D.
Co-Author(s): Marion ROBIN, Ludovic GICQUEL, Olivier GUILBAUD, Aline COHEN DE LARA, Véronique DELVENNE, Isabelle NICOLAS

SUMMARY:
Objective: The study examines the influence of eating disorder comorbidity on personality traits, Axis I and Axis II comorbidity, level of depression, and global functioning, in a sample of adolescent borderline patients.
Method: In this multicentric longitudinal study from the European Network on Borderline Personality Disorder, a sample of 85 adolescent patients with a borderline personality disorder was assessed for Axis II comorbidity (SIDPIV), Axis I comorbidity (K-SADS), personality dimensions (TCI), level of depression (BDI-II), global functioning (GAF), and a questionnaire about clinical and demographic variables.
Results: 33% of the adolescent borderline patients had a current diagnosis of eating disorder: anorexia nervosa (16.5%) or bulimia nervosa (16.5%). There were only girls in the anorexia nervosa and bulimia nervosa groups, but the noneating disorder group was mixed (80% girls). Obsessive-compulsive personality disorder comorbidity was significantly more frequent in the anorexia nervosa group (64.3%) and in the bulimia nervosa group (42.9%) than in the non-eating disorder group (26.9%). TCI Persistence score is higher among anorexia nervosa patients than among bulimic or non-eating disorder patients. There are differences between the three groups concerning Axis I comorbidity: conduct disorder and disruptive disorder are more comorbid in the non-eating disorder group, bipolar disorder and major depressive disorder in the past are more frequent among bulimia nervosa patients. No difference between borderline adolescents with and without an eating disorder was found for suicide attempts and self-injurious behaviors, for GAF and BDI-II scores.
Conclusions: Eating disorder comorbidity in borderline adolescents is high. Adolescent borderline patients with or without an eating disorder have different patterns of Axis I and II comorbidity; these results are similar to those found in adult borderline samples. Consequences of this eating disorder comorbidity will be discussed, focusing on symptoms severity and on treatment priorities.

Poster 3-56

PREFRONTAL LOBE FUNCTION IN LATE-ONSET DEPRESSION: A MULTI-CHANNEL NEARINFRARED SPECTROSCOPY STUDY

Lead Author: Pan Weigang, M.D.

Co-Author(s): JIANG Chang-hao, REN Yan-ping, BAO Feng, PEI Yu, Liu Jing, MA Xin.

SUMMARY:

Objective: To investigate executive function in late-onset depression, to assess activation characteristics of prefrontal cortex and to examine the relationship between cognitive deficits and activation in the prefrontal regions?

Methods: Application of case-control method, according to the diagnosis of DSM-IV criteria about the moderate or severe depressive episode or relapse, 29 patients with late-onset depression (LOD) were selected as patient group and 30 health volunteers with matched sex, age and education as patient group were selected as control group. The severity of depression was evaluated by Hamilton Depression Scale-17(HAMD-17). Cognitive disturbance in this study as a breakthrough, to elucidate the alterations associated with severity of depression and executive dysfunction, using 44-channel near-infrared spectroscopy (NIRS) measured and continuously monitored changes of oxygenated hemoglobin concentration in micro blood vessels of the bilateral prefrontal cortex of all subjects during verbal fluency task (VFT). The study examined the important roles of changes of prefrontal in etiopathogenesis of late onset depression. The data was analyzed by independent samples t-test, rank sum test, spearman correlation analysis and so on.

Results (1) In patient group, the correct score of VFT were significantly lower than that of the control group. (2) In LOD group, the mean changes of oxygenated hemoglobin in VFT were significantly higher than the pre-task baseline in 13 channels ($p<0.05$). In control group, the mean changes of oxygenated hemoglobin in VFT were significantly higher than the pre-task baseline in 35 channels ($p<0.05$). In VFT, the mean changes of oxygenated hemoglobin in LOD patients were significantly lower than controls in 16 channels ($p<0.05$). (3) In LOD group, the spearman correlation analysis showed that the mean changes of oxygenated hemoglobin in VFT was negatively correlated with HAMD total score($r=-0.443$, $p<0.01$), retardation factor score($r=-0.565$ to -0.404, $p<0.05$), anxiety/somatization factor score ($r=-0.45$ to -0.437, $p<0.05$) and cognitive impairment factor score ($r=-0.378$ to -0.377, $p<0.05$).

Conclusion: The prefrontal cortical activity during VFT was smaller in LOD group. In LOD group, the reduced activation of the prefrontal cortex had a significant negatively correlated with HAMD scores.LOD patients had executive dysfunction and prefrontal dysfunction, which were positively related to severity of depressive symptoms. NIRS may be a useful tool for clinical purpose and research in LOD.

Key words: late-onset; depression; executive function; near infrared spectroscopy; verbal fluency task

Poster 3-57

IMPACT ON BODY IMAGE OF CBT SESSIONS PROVIDED BY THE NURSE TEAM IN ANOREXIA NERVOSA PATIENTS

Lead Author: Cecile Bergot

Co-Author(s): Emilie GRASSET, Agathe DUMANT, Clémentine NORDON, Frederic ROUILLON, Philip GORWOOD

SUMMARY:

Anorexia Nervosa (AN) is a severe mental illness, requiring multidisciplinary care from a specialized team. Body image disorder is an essential feature of AN, and adequate treatment of AN should include assistance to change body image, not just to change eating behavior and to normalize weight. The CMME Eating Disorders Unit from Sainte-Anne Hospital (Paris, France) is specialized in AN and Bulimia Nervosa treatments, with more than 1000 outpatients, and 100 inpatients per year. The nursing team, along with the medical team leader of the Unit (Dr PHAMSCOTTEZ, MD, PhD), developped a brief (10-sessions, on a weekly basis) Cognitive-Behavior Therapy focused on body image disturbance in AN patients, assisted with Anamorphic Micro (R) software. During the sessions, the AN patients work on a photograph of their own actual body. Using the software, they can enlarge or shrink the picture. Patients have to set how they think they actually are, and how they wish to be. Using data from this software, the nursing team can then access to their deep body image disturbances. A pilot study including 50 inpatients was conducted in the Unit. Patients were randomized in two groups, one using this body image CBT, the other group using body image treatment as usual. Results are encouraging, with a significant improvement on the Body Shape Questionnaire mean score of the CBT group. Another study is ongoing in our Unit, using this body image CBT with outpatients. This poster explains the principles of our CBT sessions, the results of our pilot study, and will permit fruitful debates with other Eating Disorders teams from different countries.

Poster 3-58

AUDIT OF PATIENTS ON PALIPERIDONE PALMITATE IN A MENTAL HEALTH TRUST IN NORTHERN IRELAND

Lead Author: Brian Mangan, M.D., M.Psy.

Co-Author(s): Dr S Maguire, MB BCh, BAO, MRCPsych

SUMMARY:

Introduction: Paliperidone palmitate is a monthly antipsychotic injection indicated for the maintenance treatment of schizophrenia in adult patients stabilised with paliperidone or risperidone or with previous responsiveness to oral paliperidone or risperidone, if psychotic symptoms are mild to moderate and a long-acting injectable treatment is needed. The recommended initiation dose of paliperidone palmitate is 150mg on day 1 and 100mg on day 8, administered in the deltoid muscle to attain therapeutic concentrations rapidly. The recommended monthly maintenance dose is 75 mg but some patients may benefit from lower or higher doses within the recommended range of 25-150mg. Monthly maintenance doses can be administered in either the deltoid or gluteal muscle. It is the only monthly atypical long-acting injection, no oral supplementation is required during initiation, no refrigeration is needed and no reconstitution as the syringe is prefilled.

Methods: The aim of this audit was to assess the use of paliperidone palmitate in clinical practice and all patients receiving treatment with paliperidone palmitate in a single healthcare Trust were included. Data was collected from the medical records on patient characteristics and antipsychotic treatment.

Results: Forty patients had been treated with paliperidone palmitate: 65% were male and the modal age range was 40-49 years. The most common diagnoses were schizophrenia or schizoaffective disorder (n=25, 62.5%) and the modal duration of illness was 10-15 years. The mean number of admissions in the past two years was 2.35 (range 0-18), and the mean number of previous oral antipsychotics was 2.65 (range 1-7). The most common reasons for switching to paliperidone palmitate were poor adherence (n=22, 55%) and lack of efficacy (n=14, 35%) and most patients were initiated in the community (n=25, 62.5%). The majority of patients were correctly initiated on paliperidone palmitate in accordance with the protocol stated earlier (n=30, 75%). At the time of the audit, 92.5% (n=37) of patients were continuing treatment with paliperidone palmitate and most were being maintained in the community (n=34, 85%). The modal dose was 100mg monthly (n=18, 45%). For the three patients that discontinued treatment the reason cited in the notes was lack of efficacy.

Discussion: In the CATIE trial,1 discontinuation is used as a global measure of effectiveness reflecting efficacy and tolerability. In this audit, 90% of patients had a history of poor adherence (55%) or lack of efficacy (35%) and are therefore

viewed clinically as 'difficult to treat'. An adherence rate of 92.5% with paliperidone palmitate is highly encouraging in terms of clinical effectiveness. However, this patient group provides evidence that long-acting injectable antipsychotics are not currently being selected at an early stage in the course of their illness despite the evidence of better outcomes compared to oral antipsychotics.2

Poster 3-59

MORE WITH LESS: A NOVEL MODEL OF DELIVERING COMMUNITY PSYCHIATRY THROUGH CIVIL SOCIETY PARTICIPATION IN INDIA

Lead Author: Jyothi Arayambath, M.B.B.S.
Co-Author(s): Dr T Manoj Kumar MD, DPM, MRCPsych

SUMMARY:

Aims: Increasingly the developed countries call for civil society participation in developing and delivering psychiatric care for the communities. In an era of global financial difficulties, a small organisation in the voluntary sector trying to implement a model of comprehensive community psychiatric care has proven feasibility and advantages over the traditional models of care. In an era of economic gloom, the idea that groups of volunteers can provide services often better than the public sector, has clear attractiveness1.

Methods: Reporting on a model of community psychiatry where trained volunteers are engaged in running an Assertive Community Treatment model in 3 districts of Kerala, Southern India.

Results: A small team of Psychiatrists, Psychologists and Social Workers, look after around 1500 patients with severe mental illnesses in the community using 350 volunteers who ensure treatment adherence. All medication is provided free as is the rest of the treatment including psycho-social interventions and community based rehabilitation. This project has been running successfully for over 4 years and we have shown that it is feasible and cost effective.

Conclusion: While this model certainly has implications for adoption across the rest of India and perhaps similar middle and low income settings, we would like to venture to suggest that there are lessons for the developed world to learn from this, particularly in the current economic climate. The 'Third Sector' can be an important player in mental health care delivery even in countries with established public sector health care systems.

Reference: 1. http://en.wikipedia.org/wiki/Big_Society

Poster 3-60

THE POSITIVE EXPERIENCE OF PATIENTS WITHIN A UK FORENSIC HIGH DEPENDENCY UNIT

Lead Author: Michael Shortt, M.B.B.S., M.Sc.
Co-Author(s): Sam Parker BSc

SUMMARY:

One of the four key themes for all NHS organisations during 2012/13 will be increasing the pace on delivery of the quality, innovation, productivity and prevention (QIPP) challenge. The NHS Operating Framework aims to produce a greater focus on outcomes in future years and respond to the QIPP challenge. The framework puts patients at the centre of decision making with their experience of health and supporting care services a major motivation for further improvements in clinical care. Measuring the patient experience on a busy forensic HDU with the use of the Meridian Desktop indicates that over 77% express satisfaction with the service provided. Of those patients who provided their opinion, all felt comfortable about making a complaint and having had their care plan discussed with them. Trend maps indicate that this satisfaction remained constant on a monthly basis. The greatest discomfort was felt by 39% of patients who were concerned that their privacy and personal information were being compromised by clinical staff. In addition over 35% of patients raised concerns over being able to contact staff if they need to do so. Identifying positive and negative aspects of the patient experience can influence health outcomes, which in turn has an impact upon their rehabilitation, recovery and social inclusion.

Poster 3-61

PSYCHOLOGICAL THERAPY IN THE MILITARY ENVIRONMENT: A PROGRAM OF MULTIMODAL THERAPIES FOR SOLDIERS DEPENDANTS

Lead Author: Michael Wise, M.B.B.S., M.Sc.
Co-Author(s): Mrs I A Wise FBPAS FIPA MIPA MBCP

SUMMARY:

The families of soldiers experience significant stress when there loved ones are deployed to combat areas. The psychological and social stresses lead to significant disruption in the emotional well-being and performance of some of the solders dependants. This leads to attrition for 'non-combat' reasons with recall from the combat area. In 2009/10 a program of group, mother and child, and individual therapies was organised for a Regiment about to be posted to Iraq, and tasked with mainly support duties. Pre-deployment preparation of the families was an important role with great care taken to use familiar language and reduce resistance to a novel and potentially threatening idea. Post-deployment regular visits occurred with facilities for child care, if requested, so that mothers had uninterrupted space for therapy. Over the year of the program the Regiment had a reduced recall rate compared to its sister regiments; other regiments had a 'non-cpmbat' recall rate of 6%, triple that of the intervention group. Analysis of the number of sessions provided to non-solddiers showed that the number needed to treat, ie reduce the recall of one soldier, was 6. Several factors were thought to be important. The involvement and acceptance of the men on the ground, their immediate welfare officers, but as important was the visible support of the Commanding Officer and partner: providing a clear steer to the families that the program was accepted and valuable. In 2012 following a major incident with substantial loss of life the Program was delivered to a front line unit deployed to Afghanistan. Initial unfamiliarity led to potential difficulties which were resolved as military staff recognised the professionalism and experience of the therapist. Therapy was now available for all personal and dependants. Major differences were an expected mortality rate in excess of 5% a tour, as well as the large family size, often from several relationships as marriage duration was not lengthy. With this background, the levels of anxiety were extreme, and difficult to contain. Generating large families to maintain a relationship and keep the dread of death at bay is a maladaptive coping mechanism; as is intolerance of 'weakness', with resulting undesirable behaviours. Over the Program the morbidity rate was triple the mortality rate, with limb loss being common. Soldiers presented as often as their families for therapy. In light of the massive morbidity and mortality rate, the ongoing risks, and different population characteristics, the reduction in recall rates for non-comnat reasons from less than 2% to less than 0.25% is remarkable. Thus the Program found that psychoanalytically informed treatment made a huge reduction in recall rates even where there was substantial mortality. The Regimental Welfare Officer's report has strongly recommended that the Program is extended to all regiments in the Brigade that will deploy in 2013 and 2014.

Poster 3-62

THE RATIONALE, DEVELOPMENT AND ESTABLISHMENT OF MOSAIC, A SCHIZOPHRENIA REGISTRY IN THE UNITED STATES

Lead Author: Diana Perkins, M.D., M.P.H.

Co-Author(s): Laura J. Julian, Cedric O'Gorman, Daniel Casey, Phillip D. Harvey, James I. Hudson, Henry A. Nasrallah, Keith H. Nuechterlein, Tracey G. Skale, Lonnie R. Snowden, Rajiv Tandon, Cenk Tek, Dawn Velligan, Sophia Vinagradov, Carol Jean Guittari, Kathleen Villa, Ellen Lentz, Charles Barr

SUMMARY:

Introduction: We describe here the development and establishment of a new schizophrenia disease-based 5-year registry, MOSAIC (the Management Of Schizophrenia In Clinical Practice). The MOSAIC Registry was initiated in 2012 to address important gaps in our understanding of key symptom domains and best practices in care. The objectives are: (1) describe the longitudinal course of disease with a focus on negative and cognitive symptom domains; (2) describe the patterns of treatment in usual care settings at all stages in the illness trajectory; and (3) estimate the burden of disease from the perspective of the patient, caregiver, and provider.

Methods: To meet the Registry objectives, methodology goals included: (1) geographic diversity of health care sites (i.e., US distribution, rural vs. urban sites); (2) diversity within type of care site (e.g., community, academic); (3) patient diversity across the spectrum of disease severity and duration; and (4) patient assessment independent of the treating clinician practice to minimize influence of the study activities on usual care. A network of Patient Assessment Centers (PACs) was formed to support proximal care sites and recruit up to 2,500 patients. Each PAC is a research base for data collection from participants and available caregivers (structured interviews, patient reported outcomes, medical record abstraction). Participant entry criteria are broad and include: age 18 or older, English speaking, and a diagnosis of schizophrenia, schizophreniform, or schizoaffective disorder. Participant assessments occur quarterly in year one and at six months intervals thereafter, with caregiver and clinician evaluations documented every six months for a period of 5 years.

Results: The PAC-site network has created the necessary infrastructure for initiating a large-scale prospective study of individuals with schizophrenia based on high quality, comprehensive data collection. Fifteen PACs have been identified so far, with site initiation ongoing. To date, PACs are located in 12 states, with 30 proximal care sites representing: 39% community mental health centers, 38% academic medical centers, 8% Veterans Affairs Medical Centers, and 15% hospital based or practice based centers.

Conclusions: The burden of schizophrenia is substantial, impacting the patient, family, community and healthcare system. No large-scale patient registry has been established in the US to describe patients with schizophrenia and symptom attributes, characterize the care of persons with schizophrenia, and to estimate disease burden. In response to specific methodological goals, the MOSAIC registry represents a unique research infrastructure and methodological model to observe patients receiving usual care in a variety of treatment settings. The methodological advances employed by MOSAIC may serve as a model for other observational research initiatives to improve our longitudinal understanding of various psychiatric disorders.

Poster 3-63

THE RELIABILITY AND VALIDITY OF THE KOREAN VERSION OF APATHY EVALUATION SCALE AND ITS APPLICATION IN PATIENTS WITH SCHIZOPHRENIA

Lead Author: Youngmin Lee, M.D.

Co-Author(s): Il Ho Park, MD, PhD, Seon Young Ko, MA, Hyun Mook Kang, MD, Jung Eun Song, MD, Min Seong Koo, M.D., Ph.D.

SUMMARY:

Objectives: Apathy has been clinically conceptualized as the consequence of amotivation. Apathy can be observed in various psychiatric disorders and may have different cognitive and behavioral aspects which can affect their evaluation and treatment. However, how apathy is characteristically different among psychiatric disorders is unclear. Apathy Evaluation Scale (AES), developed by Robert S. Marin is one of the most frequently used scales to evaluate apathy and assess difference in apathy in patients with dementia, delirium, depression, frontal lobe injury and negative symptoms in schizophrenia. The purpose of this study was to evaluate the reliability and validity of the Korean version of the AES (K-AES) and to apply the K-AES in examining the characteristics of apathy in the Korean patients with schizophrenia.

Method: 129 healthy people and 29 patients with schizophrenia have been evaluated using the K-AES, Physical Anhedonia Scale (PAS), Social Anhedonia Scale (SAS), and the Beck's Depression Inventory (BDI). Test-retest reliability and internal consistency were evaluated and factor analysis and correlation analysis was conducted. Between-group comparison was conducted using independent sample T-tests.

Result: K-AES showed good test-retest reliability and internal consistency with Pearson correlation coefficient of 0.352 and Cronbach's alpha of 0.764. K-AES also showed good convergent validity; correlation coefficients with the negative attitude and performance difficulty factors of BDI, PAS and SAS scores were 0.292, 0.229, 0.365 and 0.321, respectively. Factor analysis revealed 5 factors, which represented motivation, social relationship, execution, and self-interest/self-assessment. Patients with schizophrenia showed significantly higher K-AES and BDI scores than the healthy group. KAES scores in patients with schizophrenia were significantly correlated with the PAS score, but did not correlate with SAS and BDI scores.

Conclusion: This study demonstrates the reliability and validity of the Korean version of the Apathy Evaluation Scale (K-AES). Our findings also suggest that the K-AES may be a reliable instrument in assessing apathy as a negative symptom in patients with schizophrenia.

Poster 3-64

COMORBIDITY OF ANXIETY AND DEPRESSIVE SYMPTOMS AMONG COLOMBIAN UNIVERSITY STUDENTS

Lead Author: Adalberto Campo-Arias, M.D., M.Sc.

Co-Author(s): Luisa Barliza, Psicol., MSc, Guillermo A. Ceballos, Psicol., Edwin Herazo, MD, MSc

SUMMARY:

Background: Comorbidity of anxiety and depressive symptoms is frequently observed in clinical settings. However, there is little information about the comorbidity of both anxiety and depressive symptoms in Colombian university students.

Objective: To determine the prevalence of comorbidity of anxiety and depressive symptoms among university students from a public university at the Colombian Caribbean coast.

Method: A cross-sectional study included university students between 18 and 30 years old. Participants completed a five-item version of the Zung's Rating Anxiety Scale (ZRAS) and the Well-Being Index (WHO-5). Students scored higher than ten in ZRAS were classified as clinically significant anxiety symptoms; and lower than six in WHO-5, as clinically significant depressive symptoms. Participants with both clinically important anxiety and depressive symptoms were considered in comorbidity of

anxiety and depressive symptoms (CADS). Results: A total of 1,349 university students participated in the survey. The mean of age was 20.6 years old (SD=3.4); and 50.7% were males. Both short version of ZRAS and WHO-5 showed high reliability (Cronbach alpha 0.720 and 0.763, respectively). A group of 81 students (6.0%) scored for CADS. Family dysfunction (OR=2.03; 95%CI 1.24-3.32), Risk of eating disorders (OR=2.00; 95%CI 1.21-3.30), low self-esteem (OR=1.78; 95%CI 1.05-3.01), low academic achievement (OR=1.71; 95%CI 1.04-2.81), and female sex (OR=1.70; 95%CI 1.06- 2.71) were associated with CADS (Goodness of fit test X2=1.956; df=7; p=0.962).
Conclusions: Comorbidity of anxiety and depressive symptoms is often in Colombian Caribbean university students. It is necessary to identify the comorbidity of anxiety and depressive symptoms among university students because deteriorate academic performance.
Acknowledgment: The research was supported by Fonciencias (University of Magdalena, Santa Marta, Colombia).

Poster 3-65

PROBLEM GAMBLING: ASSOCIATION WITH OTHER RISK HEALTH BEHAVIORS IN COLOMBIAN UNIVERSITY STUDENTS

Lead Author: Edwin Herazo, M.D., M.Sc.
Co-Author(s): Guillermo A. Ceballos, Psicol., Luisa Barliza, Psicol., MSc, Adalberto Campo-Arias, MD, MSc

SUMMARY:
Background: Problem gambling (PG) is increasing among university student populations. Although, information is scarce about its association with other risk health behaviors among Colombian university students. Objective: To estimate the association between risk health behaviors and PG in university students from a university at Santa Marta, Colombia.
Method: In the present cross-sectional study participated a sample of university students between 18 and 30 years old. Health risk behaviors were last-month illegal substance use, daily cigarette smoking (DCS) and abusive alcohol consumption (AAC) (AUDIT questionnaire). PG was estimate using a validated four-item scale for problem gambling (PGS). Logistical regressions were computed to adjusted association by sex.
Results: A sample of 917 university students participated in the survey. The mean of age was 20.6 years old (SD=2.6); and 59.0% were males. PGS presented high internal consistency (Cronbach alpha 0.765). A total of 53 students (5.8%) reported DCS; 306 students (33.4%), AAC; 24 students, last-month illegal substance use; and 105 students (11.5%), PG. Illegal substance use (OR=3.46; 95%CI 1.33-8.98); DCS (OR=2.79; 95%CI 1.45-5.37) and AAC (OR=2.01; 95%CI 1.32-3.06) were related to PG, after adjusting for sex.
Conclusions: At least a tenth part of Colombian university students reports PG. Other health risk behaviors are associated with PG. It is important to reduce prevalence of PG and other health behavior among university students in Colombia.
Acknowledgment: The research was supported by Fonciencias (University of Magdalena, Santa Marta, Colombia).

Poster 3-66

ELECTROMAGNETIC WAVELENGTH CHANGES AS THE CONSEQUENCE OF METABOLISM VARIATIONS IN BRAIN FOR CREATE COGNITION, MIND, AND TIME PERCEPTION

Lead Author: Mojtaba Omid, M.Sc.
Co-Author(s): Gunay Osmanova , Omid Mirzaei , Laleh Avestan

SUMMARY:
We are working on probability of process that indicate, basis for formation of cognition and mind and time perception in beings from early time of life creating, in revolutionary route return to EM (Electromagnetic) wavelengths variations in form of thermal emission and temperature variations as the consequences of regular metabolism variations (shortage and intensification) like the (0 - 1) process in computers for create and save the data which cells and in advanced form brain cells create cognition ,mind and time perception with this process. In this paper we want to show that how brain images of patients with brain abnormalities proves accuracy of this process. Our methods divided in two parts: Studying the FDG-PET (Fluorodeoxyglucose-Positron emission tomography), fMRI (Functional magnetic resonance imaging) and near infrared spectroscopy images of patients with brain abnormalities and compare them with normal images and studying Wien displacement and Planck constant and results of Hasselkamp, Mondry, and Scharmann experiments for formulating them as a theoretical aspect of this process. On base of this process, we must expect that in patients with brain abnormalities, normal glucose metabolism variations in brain collapses and it cause to temperature disorders and EM wave lengths variations and there will be reveals disorders in cognition, mind and perception of time. In patients with brain abnormalities these occurs obviously with abnormalities in brain glucose metabolism that shown in brain FDG-PET imaging. So in these patients with modifying the major metabolism changes or temperature disorders in brain we could cure them.

Poster 3-67

SAME-SEX AND OPPOSITE SEXUAL ATTRACTION AMONG DEPRESSED AND/OR ANXIOUS PATIENTS

Lead Author: Henny Bos, Ph.D.
Co-Author(s): Lynn Boschloo, PhD, Robert Schoevers, PhD, Theo Sandfort, PhD

SUMMARY:
Introduction/Hypothesis: Several general population studies have shown that mental health problems such as depressive and anxiety disorders are more prevalent in persons sexually attracted to the same sex, compared to persons attracted to the other sex. The present study is the first study to explore among persons diagnosed with a DSM-IV depressive and/or anxiety disorder, whether the clinical expression of disorders (e.g., severity), vulnerability (e.g., personality, childhood trauma) and lifestyle factors (e.g., alcohol/ substance use) were related to sexual attraction.
Methods: Data were derived from the Netherlands Study of Depression and Anxiety (NESDA), including 582 men and 1,198 women with a past-year DSM-IV depressive and/or anxiety disorders, recruited from community care, primary care and specialized mental health care. The NESDA survey includes standardized instruments. Chi-square and T-tests were conducted for categorical and continuous variables, respectively. Sexual attraction is the independent variable, and all analyses were stratified for sex.
Results: In our sample of depressed and/or anxious patients, 9.3% of men and 5.7% of women had a same-sex sexual attraction. For men, sexual attraction was not related to any of the clinical factors (age of onset of the symptoms, severity of depressive and anxiety symptoms). Women with same-sex attraction, however, showed less severe anxiety symptoms than women with an attraction towards the other sex; but on the other clinical factors no relation with sexual attraction was found among women. Men with same-sex attraction more often reported childhood trauma, such as sexual abuse, psychological neglect and emotional neglect compared to men with an attraction towards the other sex. In terms of personality traits, men and women with same-sex attraction both showed higher scores of openness to experiences compared to men and women with opposite-sex attraction; there were no differences regarding other traits. None of the lifestyle factors were related to sexual attraction in men; same-sex attracted women reported more frequent alcohol use and illicit drug use compared to women with opposite-sex attraction.
Conclusions/Discussion: Although the clinical expression of mood and anxiety disorders was rather similar in patients with a same-sex attraction and those with an opposite-sex attraction,

substantial differences were found in vulnerability and lifestyle factors. Men with same-sex attraction more often reported childhood trauma and women with a same-sex attraction showed an unhealthier lifestyle. As such, childhood trauma might be an important in the etiology of these disorders in male patients with a same-sex preference. It is not clear whether unhealthy lifestyle behavior for women is an etiological factor because this behavior might also be related with experiences with stigmatization.

Poster 3-68

EFFECTS OF EMDR THERAPY WITH 28 PSYCHO-LOGICALLY-TRAUMATIZED CLIENTS: EEG MONITORING AND NEUROBIOLOGICAL CORRELATES

Lead Author: Marco M.E. Pagani, M.D., Ph.D.

Co-Author(s): G. Di Lorenzo, A.R. Verardo, P, L. Monaco, Daverio A, Giannoudas I, P. La Porta, C. Niolu, I. Fernandez, A. Siracusano

SUMMARY:

Background: A neurobiological ground for Eye Movement Desensitization and Reprocessing (EMDR) has been recently demonstrated. The aim of this study was to compare before and after EMDR therapy the electric signals deriving from the electroencephalographic (EEG) monitoring during bilateral ocular stimulation (BS).

Methods: A 37 channels EEG was used to record neuronal activation during whole EMDR sessions. Twenty-eight clients victims of psychological traumas were investigated at the first EMDR session (T0) and at the last one performed after processing the index trauma (T1). Comparisons between the EEG signals during the BS period at T0 and T1 were performed. Electrical source images were analyzed for each EEG band by eLORETA using non-parametric statistics. Between group differences were evaluated by the exceedance proportion test at $p<0.01$, F value over 2 z-score and a cluster extent major than 27 voxels (125 cubic mm).

Results: As compared to T0, EEG during bilateral ocular stimulation at T1 showed a significantly decreased neuronal activity in the visual cortex in all bands with the exception of gamma band in which the electric signal in left prefrontal and bilateral superior parietal cortex was significantly diminished. The opposite comparison showed increased activity post-EMDR in right dorso-lateral frontal cortex and fusifom gyrus (delta band), right dorso-lateral frontal cortex (theta band) and left temporal lobe, fusiform gyrus, and right temporo-frontal cortex (gamma band)

Conclusions: The implemented methodology made possible to monitor the specific activations associated with bilateral ocular stimulation during EMDR therapy. In the largest group of psychologically traumatized clients investigated so far by EEG the analyses demonstrated following EMDR a shift of the maximal electric activity from visual cortex to frontal and temporoparietal regions. These findings suggest that processing of the traumatic event moves from areas elaborating the pathological images of the index trauma to regions with an established cognitive and associative role. Furthermore the activation post-EMDR of dorso-lateral frontal cortex speaks in favor of a restored function of such area in inhibiting pathological amygdalar function, responsible of the cortical hyperactivation state in PTSD. Processing the traumatic events following successful EMDR therapy resulted in distinct neurobiological patterns of brain activations during bilateral ocular stimulation associated with a significant relieve from negative emotional experiences.

Poster 3-69

DEPERSONALIZATION: DEREALIZATION DISORDER POSTTRAUMATIC BRAIN INJURY

Lead Author: Griselda Nora Russo, M.D.

Co-Author(s): Maria Eugenia Mostaje, Francisco Melli, Patricio Alexis Chrem Mendez, MD, Jorge Campos, Daniela Buyatti, Ricardo Allegri, Cohen Gabriela

SUMMARY:

Depersonalization – derealization disorder is a disturbance, in which patients experience that his own mental activity, body or environment has changed, become unreal, distant or mechanical. This phenomenon can occur due psychiatric disorders or different organic lesions.

Objectives: our objectives are to analyze the neuroradiological, neuropsychiatric, neuropsychological and neurophysiological characteristics of a patient with derealization-depersonalization disorder secondary to a traumatic brain injury (TBI) and to quantify the emotional disturbance consistent with patient's complaint using the galvanic skin conductance test.

CASE REPORT: a 37 year old right-handed female without significant medical or psychiatric history that suffered an accident with loss of consciousness and was admitted to an intensive care unit. She presented right hemiparesis, blurred vision and a right frontal concussion with a temporo-occipital laminal subarachnoid left hemorrhage. Two months after she presented to the outpatient memory clinic with a main complain of loss of recent memory and a constant feeling of "strangeness" about her environment, her family and some personal items. She did never fulfilled criteria for posttraumatic stress disorder or any other psychiatric illness.

MATERIALS AND METHODS: To quantify the emotional dissociation referred by the patient, we analyzed the autonomic response to a variety of visual stimuli through measuring the skin conductance response. We used two types of stimuli: emotionally related images trough pictures related to the patient´s family, personal history and friends and not emotionally related images through pictures taken from International Affective Picture System specially selected to match with the previous group. To compare the responses we selected two first degree relatives controls and one not familyrelated control. She also underwent the following studies: Cerebral MRI with tractography, EEG, Neuropsychiatric Assessment, Serial neuropsychological assessments.

RESULTS: The patient had no signs or symptoms of depression or apathy. She had no past history of pathology in the axis I or Axis II (DSMIV). She developed the novo an egodistonic, almost permanent derealization phenomenon. BRAIN MRI: shows a subarachnoid left temporo occipital hemorrage and right frontal concussion. The tractography shows thinned inferior longitudinal fasciculus. Galvanic Skin Conductance Test: the patient had notorious less emotional response to all visual stimuli (known and unknown) compared with both familiar or unfamiliar controls even though she could recognize the familiarity of the stimuli as well as the controls did.

CONCLUSION:-The skin conductance test was useful to demonstrate the lack of emotional response to visual stimuli. The decrease in the emotion triggered by visual stimuli could explain the symptoms reported by the patient. Derealization syndrome may be secondary to severe TBI and other injuries

Poster 3-70

COCAINE-INDUCED PSYCHOSIS IS LINKED TO POOR QUALITY OF LIFE AND GREATER SEVERITY OF ADDICTION

Lead Author: Carlos Roncero, M.D., Ph.D.

Co-Author(s): Constanza Daigre MA, Lara Grau-López MD, Sira Díaz-Moran PhD, Laia Rodriguez-Cintas MA, Laia Miquel MD, Nieves Martínez-Luna MD, Carmen Barral MD, Marta Berenguer MA, Joan Alvarós MD, Diana Bachiller MA, Ángel Egido MD, Miguel Casas MD, PhD

SUMMARY:

Introduction: Cocaine consumption can induce transient psychotic symptoms. Cocaine-induced psychosis (CIP) could be related with alterations in quality of life (QoL) or severity of addiction.

Aim: To study the presence of CIP in a large sample (615, 78.5% men; 35.5 (18-69 yo, SD 8.04)) of cocaine-dependent patients seeking treatment. Objective: To determine the influence of CIP on QoL and severity of addiction in cocaine-dependent patients.

Methods: A structured interview for psychotic symptoms and substance use was systematically conducted in 586 patients, using SF-36 to study QoL and EuropASI for study severity of addiction. Finally, we evaluated QoL of 300 patients (80.7 % men; 35.7yo (SD=7.9)) and severity of addiction of 361 (80.6 % men; 35.4yo (SD=7.9)). We hypothesized that CIP is related with poor QoL and greater severity of addiction.

Statistical analysis: We conducted a descriptive analysis then used the Mann- Whitney U Test to study quantitative variables.

Results: Psychotic symptoms were detected in 64.3% of the total sample and 59.7% and 61.5%, respectively of the two samples studied. We identified a significant association between CIP and poor role-psychical (Z=2.03 p=.043), bodily pain (Z=1.96 p=.049) and social functioning (Z=2.92 p=.003) on this SF-36 subscales. Also CIP patients were associated with greater severity in the working (Z=1.99 p=.046) and psychological status (Z=2.32 p=.021) on this EuropASI subscales.

Conclusion: We found CIP to be very common. Our results suggested that CIP is linked with poor QoL and greater severity of addiction compared to cocainedependent patients without CIP. We hole that CIP is a marker for severity of cocaine dependence among addicts. These findings can also be useful for a clinical approach in order to provide more sensitive treatment and to detect severe cocaine dependence in patients.

Poster 3-71

RELATIONSHIP BETWEEN SEVERITY OF DELIRIUM AND MORTALITY IN PATIENTS WITH CANCER

Lead Author: Il-Seon Shin, M.D., Ph.D.

Co-Author(s): Ji-Eun Jang, MD, Sung-Wan Kim, MD, PhD, Yong-Hwan Kim, MD, Seon-Young Kim, MD, MSc, Jae-Min Kim, MD, PhD, Il-Seon Shin, MD, PhD, Jin- Sang Yoon, MD, PhD

SUMMARY:

Objective: To assess the association between severity of delirium and mortality in cancer patients and to investigate the phenomenology of delirium among those facing imminent death.

Method: We retrospectively reviewed the charts of 112 cancer patients with delirium at a cancer center. The subjects were categorized into three groups (deceased before discharge, discharged without hope for improvement, and improved). Severity of delirium was assessed using Korean version of the Delirium Rating Scale-Revised-98 (K-DRS-R-98), and the scores of the three groups were compared after adjusting for the demographic and clinical factors that differed in the univariate analyses ($p < 0.1$).

Results: Of the 112 patients, 20 (17.9%) died prior to discharge, 28 (25.0%) were discharged without hope for improvement, and 64 (57.1%) improved during the index admission period. We found a significant difference in the total KDRS- R-98 scores of the three groups (24.2, 26.1, and 21.2, respectively, p=0.002), which was maintained after adjusting for potential compounding factors (age, abnormality of white blood cell counts, and use of antibiotics and opioids). The total K-DRS-R-98 scores in the post-hoc analyses were significantly higher in the deceased-before-discharge and discharged-withouthope-for-improvement groups than in the improved group (p=0.017 and <0.001, respectively). According to scores on the K-DRS-R-98, sleep–wake cycle disturbances, language and cognitive abnormalities, and difficulties with attention, short-term memory, and visuospatial abilities were more frequent in cancer patients in the deceased-before-discharge and discharged-withouthope groups than in the improved group.

Conclusion: The severity of delirium at the time of psychiatric consultation was significantly associated with mortality in cancer patients with delirium.

KEY WORDS: Cancer, Delirium, K-DRS-R-98, Mortality

Poster 3-72

THE RELATIONSHIP BETWEEN MEASURES OF IMPULSIVITY AND OBSESSIVE-COMPULSIVE DISORDER

Lead Author: Sung-yun Sohn, M.D.

Co-Author(s): Hye Won Kim

SUMMARY:

BACKGROUND: Obsessive-compulsive disorder (OCD) is a severe and incapacitating psychiatric disorder that is characterrized by recurrent intrusive thoughts and repetitive ritualistic behaviors Although OCD and impulse control disorders have been known to represent opposing ends of a continuum, some researches have demonstrated a frequent co-occurrence of impulsive and compulsive behaviors. Meanwhile, recent findings suggest that impulsivity is multi-dimensional construct that can be examined through several constructs including, risky decision-making, response inhibition, and delay reward discounting. Therefore, the purpose of this study is to identify the specific characteristics of impulsivity in OCD with several impulsivity measures which reflect various dimensions of impulsivity.

METHODS : Our sample consisted of 60 OCD subjects and 60 controls. All participants completed a test battery comprising three behavioral tasks to measure risky decision-making (balloon analog risk test; BART), response inhibition (stop signal task; SST), and delay reward discounting (delay discounting task; DDT). In addition, all subjects also completed the Barratt Impulsiveness scale (BIS-11) as a self-report measure of trait impulsivity.

RESULTS : There were no differences of age, sex distribution, and IQ between OCD and control groups. On the SST, OCD subjects exhibited significantly longer stop-signal reaction time (SSRT) than controls (OCD; 173.0±60 ms vs. control; 149±39.9 ms, P=0.03). This finding suggests that OCD subjects show poor response inhibition. On the BART, OCD subjects showed lower BART score than controls which suggested less risk taking propensity in OCD (adjusted average pump count, OCD; 28.7±18.5 vs. control; 35.9±18.3, P=0.02). However, on DDT, there was no significant difference of mean discount rate between two groups (k value, OCD; 0.91±6.71 vs. control; 0.03±0.05). On the BIS, OCD subjects showed significantly higher scores in total BIS (OCD; 55.52±9.39 vs. control; 50.21±7.16, p<0.01), non-planning subscale (OCD; 24.06±4.24 vs. control; 21.57±3.01, p<0.01) and attentional subscale (OCD; 12.67±2.45 vs. control; 10.41±2.10, p<0.01) but not in motor subscale (OCD; 18.79±4.80 vs. control; 18.23±3.97, p=0.42)

CONCLUSION : OCD subjects show impaired response inhibition and less risk taking propensity. We found that Non-planning Impulsivity and attentional impulsivity except motor impulsivity from the self-reported BIS-11 were significantly increased in OCD participants. We observed no between-group differences in preference for immediate gratification. These findings suggest the importance of considering the distinct facets of impulsivity to elucidate their individual and combined effects on symptoms of OCD. Future studies should examine

these constructs longitudinally, as well as incorporate genetic and/or a neuroimaging component to these group comparisons in order to ascertain the biological bases of these behavioral findings.

Poster 3-73

PERCEPTIONS OF SOCIAL DOMINANCE IN PATIENTS WITH BIPOLAR DISORDER USING FACIAL EMOTIONAL EXPRESSION

Lead Author: Sunghwa Kim
Co-Author(s): Su Jin Lee, MA, Ra Yeon Ha, MD

SUMMARY:
BACKGROUND: The ability of recognizing dominant individual is important role for human social hierarchies, but little is known about patients with bipolar disorder. We investigated the perceptions of social dominance in patients with bipolar disorder using facial emotional expressions (happy, anger, disgust, fear, contempt, neutral).
METHODS: Euthymic subjects with bipolar I disorder(N=29, age=37.7±8.8, YMRS=1.4±1.6) and healthy comparison subjects(N=31, age=33.7±7.3, YMRS=1.1±1.4) matched 28 pictures of facial expressions of emotion (JACFEE) to the adequate dominant or subordinate words. Happy expressions are categorized as positive emotional stimuli and anger, fear, disgust, contempt expressions are categorized as negative emotional stimuli.
RESULTS : Perceived social dominance analysis showed the main effect for emotion ($F=11.079$, $p<0.001$), for group ($F=6.026$, $p=0.015$), and the interaction of emotion x group ($F=3.360$, $p=0.037$). Post-hoc analysis of this interaction revealed lower perceived social dominance ($p<0.05$) to negative emotional stimuli in euthymic bipolar patients. And in patients with bipolar disorder, the significant correlation ($r=-0.388$, $p<0.05$) of the Behavior approach system (Drive) with dominance scores on negative emotions was found.
CONCLUSION : This study suggests that bipolar patients have deficits in recognizing dominant stimuli and this will associate with excessive approach behavior.

Poster 3-74

PSYCHOTROPIC USE AND MENTAL HEALTH TREATMENT IN TWO BRAZILIAN URBAN CENTERS: SÃO PAULO AND RIO DE JANEIRO

Lead Author: Sergio Baxter Andreoli, Ph.D.
Co-Author(s): Quintana, M.I.; Moreira, F.G.; Ribeiro, W.S.; Mari, J.J.

SUMMARY:
Objective: Estimate the prevalence of use of psychotropic medications in the cities of São Paulo (SP) and Rio de Janeiro (RJ). Method: Random sample of 3744 individuals, 15-75 years; CIDI 2.1 (depression and anxiety) and direct questions about use of psychotropic medications in the past year; prevalence estimation was performed by weighting oversampling in SP and standardization between cities by age; psychotropic consumption association with socio-demographic variables and diagnosis was performed by logistic regression.
Results: The prevalence of psychotropic use was 8.95% in SP (CI:7.93-9 .97) and 9:54% in RJ (CI:8.49-10 .59). Antidepressants (4.72% and 4.33%) and tranquilizers (4.20% and 1.73%) respectively in SP and RJ where more common used. Psychiatrists in SP most often prescribed psychotropic (39%), in RJ general practitioners (48.8%) where more cited. Most antipsychotics (52%) and antidepressants (39%) in SP were donated by the government in RJ this figure falls to 8% and 7%. Female individuals with increasing age, separated or divorced with a psychiatric diagnosis in the past year, family history of mental illness and higher income were more likely to use psychotropic drugs. About 70% to 82% of individuals diagnosed with major depressive disorder or phobic disorder, did not use any psychotropic drug.
Conclusion: There was a decrease in the consumption of psychotropic drugs in Brazil in recent decades, with a change in the consumption of tranquilizers and antidepressants. There is a need for a better training and education of doctors and family assistance programs in recognizing symptoms of common mental health disorders.

Poster 3-75

MENTAL ILLNESS IN PREGNANT WOMEN: THEIR ILLNESS, PRESCRIPTION PATTERNS, AND OUTCOMES IN SINGAPORE

Lead Author: Rochelle M. Kinson, M.B.B.S., M.Med.
Co-Author(s): Jintana Tang, Dr. Helen Chen

SUMMARY:
Background: A significant number of women of childbearing age suffer from mental illness requiring psychotropic medications. Given the ethical limitations it is difficult to quantify the associated risks and illness patterns.
Objectives: To describe the local demographics, diagnosis, relapse and prescription patterns of women with a pre-exisiting psychiatric illness seeking help at a specialist centre for Womens Mental Health. Methods: Retrospective case note review from June 2006 to May 2012. All those with a pre-exisitng mental illness were included. Data on their demographics, illness, relapse rates, prescription pattern and pregnancy outcome was extracted.
Results: 101 patients identified, 73 were pregnant or postpartum. Demographics: Age - mean 32.6 years, range 17 – 42 years; 83.6% were Singaporean; Race – Chinese 67.1%,Indian 8.2%,Malay 12.1%; Marital status - married 97.3%; Employment – homemakers/unemployed 52.1% ;nonsmokers 89%. Planned pregnancy 46.6%. Axis I primary diagnosis: Mood disorder 71.2%,Anxiety disorder 15.1%, Psychotic disorder 12.3%; Relapse rates–first trimester 56.2%,second trimester 17.8%, third trimester 12.3%; Predominant symptoms of relapse were depressive; Prescription pattern (n in first, second, third trimesters respectively): Nil medications (n=40,32,39), Antihistamines (n=15,26,24), SSRI's (n=8,4,3), TCA's (n=5,23,11), Antipsychotics(n=14,11,11), Mood stabilizers(n=3,2,1); Pregnancy outcomes: intra/postpartum complications n=6, term at delivery 43.8%; Birth weight-<1.5kg 2.6%, 1.5-2.5kg 5.2%, 2.5-4.0kg 86.9%, >4kg 5.3%, neonatal death 0%
Conclusion: The sample typically described women who were Chinese, between 20-35 years old, married, homemakers and nonsmokers. Most had a pre-existing mood or anxiety disorder. Most relapses occurred in the first trimester and the predominant symptoms of relapse were depressive. The majority of women stayed off medications throughout their pregnancy. When antidepressants were used tricyclic antidepressants were preferred over SSRI's. 50% of pregnancies were unplanned. Maternal and neonatal outcomes appeared favourable with few intra/postpartum complications, most babies were delivered at term and were within the expected norms.
Source of funding: None

Poster 3-76

RELATIONSHIP OF HEART RATE VARIABILITY AND MARKSMANSHIP IN POLICEMEN IN TAIWAN

Lead Author: Michael H.T. Huang, M.D.
Co-Author(s): Hsin-Te Huang, Yueh-Ming Tai, Chia-Ching Yeh, Terry BJ Kuo

SUMMARY:
Related Changes of Heart Rate Variability and Performance of shooting Performance in Policemen in Taiwan
Background: The heart rate variability (HRV) is a popular measurement derived from intervals of heart beats and reflecting the balancing function between two autonomic nerve systems, sympathetic never system and parasympathetic never system. HRV has been proven as an excellent technique to evaluate the risk of sudden death in acute myocardial infarction

(MI) and chronic heart failure. This study aims to explore the possible application of HRV in predicting shooting accuracy among policemen regarding with the modulating effects of body mass index (BMI). We hypothesized that normal BMI and better autonomic nerve regulation lead better performance in marksmanship.
Subjects and Methods: After excluding those who with history of heart disease and using beta adrenergic blockers or any psychotropic agents, we divided 50 policemen into two groups: high BMI group (BMI?24, n=25) and normal BMI group (BMI<24; n=25).Their five-minute HRV data were detected before and after their runand stand- shooting training. Next, we analyzed the relationship between participants' performance of shooting training and HRV parameters which proposed by the Task Force on HRV after controlling the modulating effects of BMI. Statistical ANOVA model was applied.
Results: Comparing with the shooting accuracy of policemen with high BMI (89.96 ± 7.92 in standing and 75.80 ± 16.27 in running) , normal BMI group showed a significant better performance in run-shooting accuracy (75.80± 16.27, t=2.85, p=0.006) but not in stand-shooting accuracy (93.00 ± 5.50, t=1.58, p=0.122). However, the main differences between two groups in run-shooting HRV were lower mean heart rate (MHR; 96.20 ± 10.18/min), higher total power(TP; 5.37±1.36 ms2), higher high-frequency power (HFP;4.31±1.53 ms2) of normal BMI group than those of higher BMI group (MHR= 113.76 ± 13.70/ min; t=-5.14, p<0.001; TP= 3.34 ± 1.15; t=5.68, p<0.001; HFP= 2.27 ± 1.45; t=4.88, p<0.001). That is to say, better parasympathetic never functioning was found among participants with normal BMI group than high BMI group.
Conclusion: The results of this study present a positive relationship between normal BMI and better shooting performance among policemen. And, this relationship is probably as a result of better parasympathetic never functioning among people with normal BMI.
References:

1. Bootsma M, Swenne CA, Van Bolhuis HH, Chang PC, Cats VM, Bruschke AV. Heart rate and heart rate variability as indexes of sympathovagal balance. Am J Physiol 1994;266:H1565-71.
2. Lin YH, Kuo TBJ, Ho YC, Lin SH, Liu CY, Yang CCH. Physiological and psychological impacts on male medical interns of on-call duty. Stress; 2011.
3. Task Force of the European Society of Cardiology and the North American Society of Pacing and Electrophysiology, Heart rate variability: standards of measurement, physiological interpretation and clinical use, Cir

Poster 3-77

MIRTAZAPINE SUCCESSFULLY USED AS AN APPETITE STIMULANT IN PRIMARY REFUSAL TO EAT IN ADULTS WITH MODERATE INTELLECTUAL DISABILITY

Lead Author: Rupal Patel, M.B.B.S.
Co-Author(s): Dr Richard Hillier

SUMMARY:

Background: Current research has shown that Mirtazapine has been effectively used to stimulate appetite in the elderly (1). Here we present a case series of four patients with a Moderate Intellectual Disability who each presented with intractable refusal to eat over several months but who did not have overt symptoms of depression according to carers and family. Two of the four patients were being considered by Speech and Language Therapy professionals (SLT) for Percutaneous Endoscopic Gastrostomy (PEG) feeding in view of their significant weight loss and deteriorating physical health.
Results: Mirtazapine was introduced as an appetite stimulant (2), even though there were only minimal symptoms and signs which might have suggested the onset of a depressive episode. All patients experienced an improvement in their appetite within days of initiation of Mirtazapine, increasing their calorie and fluid intake and obviating the need for PEG feeding. During the following 3 months, the patients were also noted to develop an increased interest in activities, improved sleeping pattern and improved concentration.
Conclusion: These patients had very limited communication skills and there was little suggestion of depression at the time of assessment. The families and carers also did not feel that their relative was significantly depressed. Despite this, Mirtazapine had the two fold benefit of early appetite stimulation and, over the subsequent weeks, treating what in hindsight had been an underlying depressive episode. A lesson to be learnt is that primary refusal to eat, even in the absence of overt depressive symptoms may indicate an occult depressive episode in this patient group. We have shown that Mirtazapine can be an effective treatment in such cases and can prevent distressing medical intervention from having to be used.

References:

1. Fox CB: Megestrol acetate and mirtazapine for the treatment of unplanned weight loss in the elderly. Pharmacotherapy 2009; 29(4): 383-97.
2. Laimer M: Effect of mirtazapine treatment on body composition and metabolism. J Clin Psychiatry 2006; 67(3): 421-4.

Poster 3-78

SPECIFIC BENEFITS OF GROUP THERAPY ON POSITIVE AND NEGATIVE SYMPTOMS AND SOCIAL FUNCTIONING IN YOUNG ADULTS WITH A FIRST-EPISODE PSYCHOSIS

Lead Author: Federico Dufour, M.D.
Co-Author(s): M. Tettamanti, M. Badan, F. Chantraine, M. C.G Merlo, P. Giannakopoulos, L. Curtis

SUMMARY:

Introduction: Few studies to date have specifically assessed the benefits of group therapy for first episode psychosis (FEP). A recent report (Gaynor et al., 2011) did suggest that cognitive-behavioral (CBT) group therapy can improve negative symptoms in FEP. Our objective was to investigate the specific effects of group therapy approach for young adults with FEP, in particular as a potential way to treat positive and negative psychotic symptoms and positively impact social functioning.
Methods: Data were obtained prospectively from a naturalistic study of 28 young adult outpatient subjects diagnosed with FEP (mean age 22 years old, SD 4.04, 85% male) within the JADE Unit, a specialized program for early recognition and treatment of mental disorders. Whereas all subjects received antipsychotic medication and individual and family therapy, only a group of fourteen patients additionally received specific psychosocial group therapy, comprising several daily group sessions. The control group of fourteen subjects did not receive group therapy. Our main outcome measures were changes in symptoms severity (using short versions of BPRS and SANS scales) and global functioning scale (Cornblatt et al., 2007) between baseline (measured after entry in the program) and follow-up assessments after 6 months.
Results: General Linear Model (GLM) with repeated measures were done to comparatively assess the evolution of positive and negative psychotic symptoms and global functioning social scores for both groups.. Differences in the evolution of several symptom items were noted between groups. Subjects receiving group therapy presented a significantly greater decrease of positive symptoms (i.e. suspicion item p<0.05, unusual thoughts item p<0.01) and negative symptoms (i.e. blunted affect item p<0.1). These subjects also showed a better improvement in global functioning social scores compared to the control group (p<0.05).
Conclusions: Our research strongly suggests specific benefits of a group therapy approach for people with FEP. Our results point to the addition of this type of treatment leading to a better overall improvement, in particular for negative symptoms and social functioning, which represents a good predictor of

realworld functional performance for psychotic subjects (Bowie et al., 2006). Further longitudinal studies, under course, are needed to confirm these findings.

References:
1. Gaynor K. et al., 2011. Group cognitive behavioural therapy as a treatment for negative symptoms in first-episode psychosis. Early Interv Psychiatry. 5:168-73.
2. Bowie C.R. et al., 2006. Determinants of real-world functional performance in schizophrenia subjects: correlations with cognition, functional capacity, and symptoms. Am J Psychiatry. 163:418-25.
3. Cornblatt B.A. et al., 2007. Preliminary findings for two new measures of social and role functioning in the prodromal phase of schizophrenia. Schizophr Bull. 33:688-702.

Poster 3-79

NARCOLEPSY: CATAPLEXY WITH SCHIZOPHRENIA

Lead Author: Francesca Cañellas Dols, M.D., Ph.D.
Co-Author(s): Emmanuel Mignot, Seung-Chul Hong

SUMMARY:

Narcolepsy-cataplexy is a sleep disorder caused by hypocretin deficiency, the likely result of an autoimmune attack. It is characterized by the presence of hypersomnia, cataplectic attacks, hypnagogic /hypnopompic hallucinations and sleep paralysis. Many of these symptoms are related to abnormal Rapid Eye Movement (REM) sleep. Some narcolepsy symptoms are reminiscent of psychiatric disorders, for example disordered-thinking and confusion-like behaviors due to sleepiness, and psychotic like symptoms such as hallucinations. In this work, we review 11 patients with a well-documented diagnosis of narcolepsy - cataplexy that have at the same time a psychotic disorder. Eight of these patients have been diagnosed at the Stanford Center for narcolepsy, three of them were diagnosed in St Vincent's hospital in Korea.

Results: All 11 patients have typical and severe narcolepsy-cataplexy with HLA DQB1*06:02, confirmed by nocturnal polysomnographic (PSG) recording and MSLT showing short sleep latency with two or more SOREM sleep episodes. 8/11 had documented low CSF hypocretin. Clinically, all of them had hallucinations, delusions and thought disorder. According to DSM-IV-TR criteria these were diagnosed as: Schizophrenia (6), Schizoaffective disorder (1), and chronic delusional disorder (1); Psychotic dis NOS (1). Two of them had psychotic symptoms for less than 6 months at the time of the present study. Diagnosis was made in all cases but one by an external psychiatrist. Psychosis secondary to stimulant drug was excluded. Treatment for these cases was challenging.

Discussion: Age of onset for narcolepsy was typical and earlier for narcolepsy symptoms than of psychotic symptoms, although in several cases it was concomitant. These 11 patients are clinically similar to previously documented cases with clear narcolepsy and psychosis, although in these other cases, characterization was late after onset. All patients reported hypnagogic /hypnopompic hallucinations, that are typically multisensory and sleep/drowsiness related in narcolepsy. In addition, however, they also met criteria for persistent auditory hallucinations during the wake period, which are not typical of narcolepsy and suggested an additional psychiatric disorder. As in typical psychosis, all of them were also chronically convinced about the reality of their hallucinations and had changed their beliefs and behavior as a consequence. In contrast, patients with narcolepsy and hypnagogic hallucinations are critical of the content, although a transient impression of reality may occur when the hallucinations are especially vivid. Finally, all patients had delusional ideas as well, also displaying disorganized behavior and social withdrawal. Personal and/or academicals achievements were below what could be expected considering age and cultural level even in the presence of narcolepsy. These clinical differences suggesting comorbid psychosis rather than narcolepsy alone have been already described.

Poster 3-80

EXTREME VIOLENCE ACTS: INTERFACE BETWEEN LAW AND PSYCHIATRY: CASE REPORT OF A 16-YEAR-OLD BRAZILIAN MALE

Lead Author: Isabele Barros, M.B.A.
Co-Author(s): Ana Carolina Weissmann Seabra Salles

SUMMARY:

Introduction: In Rio de Janeiro State the reported number of murder attempts in 2011 was 4.242 (Government Data). In Brazil, underage individuals (< 18 years) who commit crimes are not judged as adults and their infractions are considered criminal transgressions that can be punished with social-educational penalties. This paperwork presents a case report of violence and injury from a 16 years old male against his mother.

Objectives: To discuss how the Brazilian law sees underage perpetrators with some kind of mental disorder and the role of the Forensic Psychiatrist on evaluation, diagnosis and prognosis of psychiatric patients.

Methodology: Evaluation of a case where a woman was severely injured, tortured and almost assassinated by her son and the psychopathologic and psychodynamic background of the adolescent.

Results: After evaluation we have found that the teenager had mental retardation, possibly associated with child psychosis. We could also observe the social-economic-psychological background and its role in this scenario.

Conclusions: In cases of extreme violence acts, in which mental illnesses are suspected and the perpetrator is underage, an interdisciplinary approach gives better prognosis than only Psychiatrist or Justice overview.

Poster 3-81

PSYCHIATRIST AND PATIENT PREFERENCES FOR BENEFIT AND RISK OUTCOMES AND FORMULATION IN SCHIZOPHRENIA TREATMENTS: COMPARISON OF TWO CONJOINT ANALYSES

Lead Author: Michael Markowitz, M.B.A., M.D., M.P.H.
Co-Author(s): Bennett Levitan, Ateesha F. Mohamed, John F. P. Bridges, Larry Alphs, Leslie Citrome

SUMMARY:

OBJECTIVES: To quantify psychiatrists' and patients' evaluations for tradeoffs across improvement in symptoms and changes in adverse events (AEs) associated with oral and long-acting injectable schizophrenia treatments and to evaluate how adherence information affects these preferences.

METHODS: US ions were analyzed using random-parameters logit and bivariate probit models.

RESULTS: 197 of 200 eligible psychiatrists and 271 of 301 eligible patients completed the survey. For both groups, improvement in positive symptoms was the most preferred outcome over the range of levels assessed and was assigned a mean relative importance score of 10. For psychiatrists, the next most important outcomes were improvement in negative symptoms (5.2; 95% CI: 3.6- 6.8) followed by social functioning from severe to mild problems (4.0; 95% CI: 2.8-5.2) whereas for patients, hyperglycemia (3.6; 95% CI: 2.6-4.6) and improvement in negative symptoms (3.0; 95% CI: 1.6-4.3) were next in importance. For psychiatrists, there was little ($p=0.15$) difference in preference for oral vs. injectable formulations in adherent patients, but as adherence decreased to 50%, injections were increasingly preferred ($p<0.01$). Psychiatrists regarded a 20%–25% increase in efficacy as equal in importance to switching a highly non-adherent patient (missed 50% of doses) from an oral to a monthly injectable. Patients preferred daily pill to the injections (3- month and monthly) ($p<0.01$) when there was high adherence (100%). Patients preferred monthly injection to pill ($p=0.01$) when there was poor adherence (missed 50% of doses).

CONCLUSIONS: These results suggest that psychiatrists and patients both make treatment decisions primarily based on improvement in positive symptoms. Patients consider side

effects more important than do psychiatrists. For both psychiatrists and patients, an injectable formulation becomes increasingly important as adherence declines.

Poster 3-82

LONG-TERM LITHIUM TREATMENT IN PATIENTS WITH BIPOLAR I DISORDER AND VOLUMETRIC CHANGES IN THE AMYGDALA AND HIPPOCAMPUS

Lead Author: Carlos Lopez-Jaramillo, M.Sc., Ph.D.
Co-Author(s): Juan D. Palacio, Jorge Delgado, Simon Rascovsky, Gabriel Castrillon, Adelaida Castaño-Mejia, Tomas Restrepo-Palacio

SUMMARY:
Background: The advances in neuropsychiatry in Bipolar Disorder (BD) have shown cognitive alterations and deterioration during both acute episodes and euthymic phases; this phenomenon and deficits in memory performance are closely correlated to structural changes in the brain. The fMRI in the study of brain structure enables the identification of a number of subtle neuroanatomical changes in BD, primarily within the anterior limbic network, including prefrontal, medial temporal and subcortical structures.
Objective: Our study focuses on measuring statistically significant volume changes in the Amygdala and Hippocampus in non medicated, lithium-treated, BD I patients and healthy subjects, using fMRI.
Methods: 54 euthymic patients (18 with lithium carbonate monotherapy for at least 2 years, 18 without medication for at least 2 months previous to the evaluation) and 18 healthy controls where evaluated in a descriptive correlational, cross-sectional study that used fMRI to identify comparative volumetric changes in the Amygdala and Hippocampus.
Results: The age difference between groups was statistically significant, therefore the volumetric data was adjusted to the age. The analysis showed an important volumetric difference between the Lithium treated group compared to the unmedicated and even the control group, with a statistically significant p value of 0.012 in regards to left Amygdala volume.
Conclusion: Our study showed important volumetric changes of the Amygdala and hippocampus of Lithium treated patients, further studies and a larger population are needed in order to establish a statistically significant difference and reinforce these findings.

Poster 3-83

NINTENDO WII AND SCHIZOPHRENIA: A PILOT STUDY

Lead Author: Martin Feakins
Co-Author(s): Ewa Talikowska-Szymczak, MSc, MD, Raegan Mazurka

SUMMARY:
Objective: The proposed pilot study seeks to determine whether any benefit in overall health, daily functioning, and quality of life can be gained from using the Nintendo Wii gaming system with Nintendo Wii Fit Plus games in chronic mental illness, namely Schizophrenia.
Method: Five participants with chronic schizophrenia were enrolled in this study from the Community High Intensity Treatment Team (CHITT) at Providence Care Mental Health Services Site. All participants were provided with a Nintendo Wii gaming system and Nintendo Wii Fit Plus games – a fitness video game that uses a motion-sensing remote and weight-sensitive balance board to track the physical movement of the player. Five separate home visits (the initial visit, a 2 week visit, 6 week visit, 3 month visit and a 6 month follow-up visit) were completed with each patient over a 6-month period to evaluate Nintendo Wii use and assess health, functioning and quality of life. During each visit participants completed two self-report questionnaires (Short Form (36) Health Survey (SF-36), Visual Analog Scales-Subjective quality of life and motivation assessment tool) and were evaluated on two standard measures of functioning (Clinical Global Impression for Schizophrenia (CGI-SCH) and Global Assessment of Functioning Scale (GAF)). Additionally, weight measurements and Body Mass Index (BMI) were collected.
Result: No statistically and clinically significant changes in patients overall health, daily functioning and quality of life were found after 6 months of using the Nintendo Wii gaming system and Nintendo Wii Fit Plus games. This may have been due to the patient population chosen and the severity and chronicity of their psychiatric illnesses. Patient lack of motivation and in one case, lack of comprehension, was the two main explanations for the negative results of our study. Moreover, playing the Nintendo system alone versus as a group could have an impact on overall patient engagement in using the system.
Conclusion: Our findings imply the feasibility of conducting such a study in a severely ill population of patients diagnosed with Schizophrenia. We strongly believe that playing Nintendo Wii in groups versus alone, and under the supervision of a third person, could significantly increase its effectiveness and be more beneficial for this patient population. There is an increased need for further investigations on the influence of Nintendo Wii Fit Plus on patients' overall health, daily functioning and quality of life. Knowledge gained from this pilot study will help us better prepare and conduct a study in the future in which a more suitably designed methodology can be implemented and a more suitable patient population can be chosen using our newly designed inclusion and exclusion criteria.

Poster 3-84

MULTIDIMENSIONAL STUDENTS' LIFE SATISFACTION SCALE: TRANSLATION INTO BRAZILIAN PORTUGUESE AND CROSS-CULTURAL ADAPTATION

Lead Author: Luciana Paes de Barros, M.D.
Co-Author(s): Katia Petribu, M.D., Scott Huebner

SUMMARY:
In this preliminary study of the cross-cultural adaptation and the semantic equivalence of the Multidimensional Students' Life Satisfaction Scale - MSLSS (Huebner, 1994) was produced for use with Brazilian adolescent students. The methodology of the translation process and the adaptation of the MSLSS to Brazilian Portuguese followed the internationally accepted criteria proposed by Guillemin, Bombardier and Beaton (1993), and was conducted in five stages: translation; back translation; debriefing analysis performed with the group of adolescents; a Bilingual Committee responsible for reaching full consensus regarding semantic equivalences and for drawing up a consensual version; and a pilot study. To determine internal consistency, Cronbach's alpha coefficients were obtained, and were generally consistent for the overall satisfaction score (? 0.85). Most of the domains had an alpha coefficient of over 0.71 (family, friends, living environment and self), which is considered adequate for research purposes. These coefficients were similar in magnitude to those reported in other reliability analyses of the MSLSS in Canadian, Korea, Chinese and Croatian samples, providing evidence of its robustness in most domains. The MSLSS adapted to Brazilian culture has produced results that indicate a satisfactory equivalence to the US version and suggest that it is a reliable option and easy to apply in evaluation of life satisfaction among Brazilian adolescents. The MSLSS is the only validated option for multidimensional evaluation of life satisfaction among adolescents currently available for use in Brazil.

Poster 3-85

THE INFLUENCE OF A FAMILY ORIENTATION PROGRAM ASSOCIATED WITH THE COGNITIVE BEHAVIORAL THERAPY GROUP (CBGT) ADMINISTERED TO OCD ADOLESCENT PATIENTS.

Lead Author: Tatiana Silva Almeida, M.A.

Co-Author(s): Luciana Gropo, M.D.,Claudia Ferro, M.D,Fabia Lima, M.D.,Luiz Lima Filho, B.A., Petribú K.C.L. PhD

SUMMARY:

Objectives: To evaluate the effect of a Family Orientation Program associated with the Cognitive-Behavioral Therapy Group (CBGT) administered to OCD adolescent patients.

Methods: An exploratory clinical trial was carried out, with sequential allocation of patients, comparing CBGT alone or associated to a family orientation program. Twelve CBGT sessions were administered to 28 OCD patients. The DSM-IV criteria and the Yale-Brown Obsessive-Compulsive Scale (Y-BOCS) used to obtain the psychiatric diagnosis and to measure the severity of the symptoms of OCD. The patients with an average age of 19.57 + 2.52 years. The adolescents were allocated to either Group A (CBGT associated to family intervention) or Group B (CBGT). As strategies for comparison of results, 18 families participated in the Family Program, and 10 did not receive any intervention (control group). The Family Orientation Program was developed by the author, occurring in 12 weeks with one-hour by meeting, on the same days of the adolescents sessions.

Results: The response to treatment (= 35% decrease in Y-BOCS) was similar in Groups A and B (66.7% X 70.0%), but the complete remission of symptoms (score = 8 on the Y-BOCS) occurred in 44.4% of the adolescents in Group A compared to 20% in Group B. There was no association between treatment response and age at onset symptoms, current age, gender, co-morbidity with depression, attention deficit hyperactivity disorder, ticks, course of symptoms, critical judgment (insight), adherence to treatment or family accommodation. Although no statistical significance was achieved, the variables most associated to a better response were having the hoarding symptom family history of OCD, absence of prior treatment, having had mild symptoms at the onset of the disorder and being single.

Conclusion: The Family Orientation Program, although did not have an influence on the treatment response, was related to a greater remission of symptoms in the group whose families received orientation, which may ensure a greater possibility of no relapse of the OCD patients.

Poster 3-86

AN OBSERVATIONAL STUDY TO EVALUATE THE CLINICAL BENEFIT OF LAMOTRIGINE ADD-ON THERAPY IN BIPOLAR PATIENTS IN A NATURALISTIC TREATMENT SETTING

Lead Author: Won-Myong Bahk, M.D.

Co-Author(s): Young Sup Woo, Chi-Un Pae, Jong-Hyun Jeong, Moon-Doo Kim, Duk-In Jon, Jung Goo Lee, Bo-Hyun Yoon, Sang-Yeol Lee, Kwang-Heun Lee, Young-Joon Kwon, Kyung Joon Min

SUMMARY:

Objectives: To describe the clinical benefit of lamotrigine add-on therapy to mood stabilizer or atypical antipsychotics in patients with bipolar disorder. Methods: This was an open-label, prospective, naturalistic, 12-week, observational study that included 98 patients diagnosed with bipolar disorder. Patients who had been treated lamotrigine add-on to mood stabilizers or atypical antipsychotics for 1-4 weeks were included in the study. The severities and improvement of the patients' conditions were evaluated on the Clinical Global Impressions of Bipolar Disorder-Severity (CGI-BP-S) Scale and Clinical Global Impressions Improvement (CGI-I) Scale. Clinical benefits of lamotrigine augmentation were evaluated on the Clinical Global Impression-Clinical Benefit (CGI-CB).

Results: The mean CGI-CB score was significantly decreased from 7.2±2.7 at baseline to 3.8±2.5 at week 12 ($p<0.001$). The mean CGI-BP-S score also decreased from 4.7±0.9 at baseline to 3.1±1.2 at week 12 ($p<0.001$). The percentages of patients who showed CGI-CB improvement when compared to baseline CGI-CB score was 70.4% at week 12. CGI-CB score change between baseline and week 12 in bipolar I and II groups were not significantly different ($p=0.647$). However, CGI-CB score change between week 4 and week 12 was significantly smaller in bipolar II group when compared to bipolar I group ($p=0.007$). There were 21 drop-outs during the study (21.4%). Six patients (6.1%) were withdrawn from the study for adverse events. Thirty patients (30.6%) reported 82 adverse events.

Conclusions: The clinical benefit from lamotrigine add-on therapy in clinical practice are consistent to those previously shown in the more restricted and homogeneous population of clinical trials.

Poster 3-87

ACHIEVING SYNERGY WITH A SLOW INTRAVENOUS KETAMINE INFUSION AND ELECTROCONVULSIVE THERAPY IN TREATMENT RESISTANT DEPRESSION

Lead Author: Dale D'Mello, M.D.

SUMMARY:

An intravenous slow infusion of the NMDA antagonist ketamine has recently emerged as an effective and rapidly acting antidepressant. Its efficacy has been reported in treatment-resistant recurrent major depression and bipolar depression. In addition, it is effective in diminishing suicidal ideation in patients with depression. Electroconvulsive therapy is widely recognized as an effective treatment modality for depression. Objectives: The purpose of the present paper is to explore whether there are clinical situations wherein the two strategies may be safely combined to provide a synergistic effect. Method: The authors present their experience of combining intravenous slow infusions of ketamine in patients who failed to respond to successive trials of antidepressant medications and were scheduled to receive a course of electroconvulsive therapy. Following informed consent the patients received a standardized intravenous dose of 50 mg of ketamine infused slowly over 40 minutes immediately following the ECT stimulus. The ketamine infusions continued during recovery from anesthesia, and while patients were under close observation in the post-anesthesia care unit. Results: Ketamine infusions have been employed by the authors for about 2 years. They are utilized in 3 clinical situations: a) in patients with profound hopelessness, nihilism and suicidal ideation, with no expectation of recovery from depression, b) in patients receiving a course of ECT who display only a modest response to the initial 2-4 treatments, and c) in patients receiving maintenance ECT, wherein the duration of antidepressant response was less than 4 weeks. Of the many patients who have received intravenous infusions over the past 2 years, an immediate therapeutic benefit has been observed in half of the cases. One patient complained of transient perceptual changes during the infusion. Another patient experienced brief hypomanic symptoms. Several patients have received repeated infusions, without adverse effects. Conclusions: An intravenous slow infusion of ketamine may be a safe and effective adjunct to electroconvulsive therapy. It is well received by patients, and well tolerated. It may serve to reduce the number of ECT treatments required to produce a complete antidepressant response. Conversely, the simultaneous use of two effective interventions may obscure the measure of therapeutic benefits derived from either one. This is particularly relevant considering the short-lived benefits reported with IV ketamine. Abbreviating a course of ECT with adjunctive ketamine may produce a more robust but less enduring therapeutic benefit. Perhaps future methodical studies will conclusively examine these important issues.

Poster 3-88

THE QUALITY OF LIFE ENHANCEMENT PROGRAM FOR PERSONS WITH DEPRESSION

Lead Author: Ay-Woan Pan, O.T.R./L., Ph.D.
Co-Author(s): Yun-Ling Chen, MS. OTC

SUMMARY:
Previous studies showed that persons with depression had poorer quality of life than persons with the other medical conditions. We developed a manualized treatment - Quality of Life Enhancement Program (QOLEP) based on literature review , clinical experiences and the model of human occupation. The contents of the program include 4 sessions of 'occupational life scheduling' and 4 sessions of 'coping skills' provided by an occupational therapist during a 4-week period (2 times/week) which each session lasts for one to two hours. Twenty-one subjects with depression were recruited from community mental health rehabilitation centers in northern Taiwan. They were randomly assigned to either treatment group (N=11) or control group (N=10). The subjects in the control group received general supportive therapy over the phone twice a week for 4 weeks. Both groups were evaluated at baseline and post-treatment for quality of life and severity of illness. The mixed-effects linear model was applied to analyze the efficacy of the treatment. The results showed that the subjects who participated in the QOLEP had significantly better physical QOL than that of control group (-9.66+4.24, $p<.05$). The suicidal ideation of the subjects for both groups decreased over time (2.64+3.16, $p<.05$). Most of the participants also indicated that the activities were easily understood, helpful to them, and are willing to participate in the program again. The results of the study supported the use of occupation-based approach which would assist the subjects to engage in meaningful activities resulting in the change of the perceived quality of life.

Poster 3-89

PREVALENCE OF DEPRESSION AND CORRELATED PSYCHOSOCIAL FACTORS OF MARRIED IMMIGRANT WOMEN IN A CITY OF REPUBLIC OF KOREA

Lead Author: Sang Yeol Lee, M.D., Ph.D.
Co-Author(s): Hye Jin Lee1, Ph.D., Dae Bo Lee, M.D., Won-Myong Bahk, M.D., Ph.D.

SUMMARY:
Objectives: The purpose of this study was to investigate the prevalence of depression of immigrant women in Korea and to understand its correlated factors such as acculturative stress, social support, proficiency in Korean, depression, somatic symptom and pain.
Methods: 119 immigrant women in Korea were assessed their depression, acculturative stress, social support, proficiency in Korean, somatic symptoms and pain by Acculturative Stress Scale, the Multi-dimensional Scale of Perceived Social Support(MSPSS), Beck Depression Inventory(BDI), Patient Health Questionnaire-15(PHQ-15) and Visual Analog Scale(VAS) of pain.
Results: The prevalence of depression of married immigrant women was 29%. The level of acculturative stress, social support and somatic symptom and degree of pain in depressive group were significantly higher than the non-depressive group. There were positive correlations between BDI and acculturative stress, somatic symptom and degree of pain. There was a negative correlation between BDI and social support. The level of acculturative stress has a negative correlation with proficiency in Korean.
Conclusion: The depression has correlated with acculturative stress, less social support, somatic symptom, and pain. These results suggest that mental health programs might be needed for married immigrant women and the psychosocial factors could be considered for the treatment program.

Poster 3-90

TRENDS OF SUICIDE MORTALITY IN CENTRAL DELHI

Lead Author: Subhash Chandra, M.B.B.S., M.D.
Co-Author(s): Yashoda Rani, M.D., Atul Murari, M.D.

SUMMARY:
The causes of suicide vary from place to place. Research studies on trends in suicide mortality in Central Delhi, an overtly populated city with high crime rate and full of immigrants were not available, so far. The study was conducted in the department of Forensic Medicine and Toxicology, Lady Harding Medical College, New Delhi India. The method adopted was psychological autopsy which included detailed information of the victims taken from the relatives on a set questionnaire, photographs of the place of incidence and its detail from the Investigating Officers and postmortem examination. Psychiatric illness was found in 40.6% of cases, out of which nearly 54 % of the victims had taken treatment in the past but only a few of them were still under treatment. 46% had the features suggestive of some common psychiatric illnesses as told by their relatives but none of them had ever sought any psychiatric consultation. Psycho-social stressors were found in 34.3 % of the suicide victims out of which 72.7% had inter-personal conflicts, 27.3.1% had social maladjustment.6.3% of the total suicide victim had financial set back and another 6.3% of the had terminal illness. 59.4% of all the suicide victims gave no hint about their intention to commit suicide, 21.9% of the suicide victims gave verbal hints and suicide note could be retrieved in only 18.7 % of the cases. 43 % of the subjects committed suicide during evening and night hours (6 p.m. - 9 p.m.: 18.5 % and 9 p.m. - 12.a.m. - 25 %). 21.9% in the morning hours (9 a.m. to 12 p.m.). The victims mostly preferred closed room and were residents of Delhi. Only 9.6 % of the victims were separated, widowed or divorced. Most of the victims had some mental illness. It is imperative that the family sought no medical help for their disturbed kith and kin even when the health facility and medication is free of cost. Other vital point of importance is that even those who were diagnosed, were not on any medication. To prevent suicide, these gaps of communication need to be bridged rather than increasing the no. of mental health professional. Key words: psychological autopsy, suicide, psycho-social stressor, suicide note, questionnaire, mental illness,

Poster 3-91

ACADEMIC PERFORMANCE IN CHILDREN WITH ATTENTION-DEFICIT/HYPERACTIVITY DISORDER: A CROSS-SECTIONAL STUDY

Lead Author: Raghu Gandhi, M.B.B.S., M.D.
Co-Author(s): Dr. Sujata Sethi, Dr. Aastha Chauhan, Dr Rajesh Rastogi

SUMMARY:
Academic performance in children with attention deficit hyperactivity disorder - a cross sectional study
Purpose: Children with attention deficit hyperactivity disorder (ADHD) present with academic underachievement and learning disabilities. Literature suggests that approximately 80% of children with ADHD experience academic underachievement. Increased school failures, grade repetitions, special tuitions and placements have been documented. The nature of link between ADHD and academic underachievement is not very well known. We tried to look into association between academic performance and subtype and severity of ADHD.
Methods: This was a comparative and clinic based study conducted in the department of Psychiatry, PGIMS, Rohtak, India. One hundred children diagnosed as ADHD (all types) as per DSM-IV criteria and their parents were selected for the study. Vanderbilt ADHD parent rating scale, and Conner's parent 10 item abbreviated scale were used to collect the data from parents.
Results: Children with ADHD combined subtype showed statistically significant impairment in academic performance as

compared to inattentive and hyperactive-impulsive subtype. The children with combined subtype of ADHD had statistically significant impairment in reading, mathematics, written expression as compared to inattentive and hyperactive impulsive subtype. Further there was a direct correlation between severity of ADHD and academic performance. More severe the ADHD, worse the academic performance.
Conclusion: Children with combined subtype of ADHD had worst academic performance. More severe the ADHD, worse the academic performance.
Keywords: ADHD, subtype, severity, academic performance.

Poster 3-92

DUAL PATHOLOGY: PSEUDOEPHEDRINE ADDICTION IN A PATIENT DIAGNOSED WITH ATTENTION-DEFICIT/HYPERACTIVITY DISORDER

Lead Author: Miguélez Fernández
Co-Author(s): Néstor Szerman, M.D., Domínguez Longás

SUMMARY:
Pseudoephedrine is a Sympathomimetic drug of the phenethylamine and amphetamine chemical classes. It may be used as a nasal/sinus decongestant, as a stimulant or as a wakefulness-promoting agent. The salts pseudoephedrine hydrochloride and pseudoephedrine sulfate are found in many preparations, either as a single ingredient or (more commonly) in combination with antihistamines, dextromethorphan, paracetamol(acetaminophen), or an NSAID (such as aspirin or ibuprofen). It has been demonstrated that pseudoephedrine stimulates central nervous system and inhibits dopamine and norepinephrine re-uptake. We describe the case of a 64-years-old patient, with a Attention- Deficit/Hyperactivity Disorder diagnostic, who has been addicted to alcohol and amphetamines since he was teenager. Now, he has been abusing legal pseudoefedrine for three years. Attention was drawn to the growing problem of pseudoephedrine addiction, which is often used as an easier to obtain and cheaper replacement of amphetamine.

Poster 3-93

DIFFERENT ASSOCIATIONS BETWEEN COGNITIVE IMPAIRMENT AND SEVERITY OF SYMPTOMS AMONG ADHD, SCHIZOPHRENIA AND MDD

Lead Author: Keith Andrew Wesnes, Ph.D.
Co-Author(s): Seth C. Hopkins, Kenneth S. Koblan

SUMMARY:
BACKGROUND Mental illness impacts cognitive functioning and different psychiatric diagnoses are thought to exhibit characteristic deficits in cognitive performance across major cognitive domains.
OBJECT Cognitive performance was compared to symptom severity in three psychiatric disorders. The hypothesis was that patients with more severe symptoms would show larger deficits in cognitive function.
METHODS Pre-dosing performance data were collected from various clinical trials using the CDR System: a set of 9 brief automated tests of attention, information processing, working memory, executive control and episodic memory. This analysis involved 514 MDD patients, 116 adult ADHD patients, and 90 stably medicated patients with schizophrenia. Their data were compared to 4,466 healthy age-matched controls and also to measures of symptom severity.
RESULTS The patients with schizophrenia had consistently greater deficits over the 7 domains assessed than the other two populations, while MDD exhibited larger deficits than ADHD. The largest impairments were to Power of Attention (PoA), a measure of focused attention and information processing speed, with Glass's effect sizes of 1.25 for ADHD, 2.61 for MDD and 3.39 for schizophrenia. The speed of retrieval from working and episodic memory was also impaired in all populations (effect sizes 0.74 ADHD, 1.34 MDD & 1.93 schizophrenia), although only schizophrenia showed deficits on accuracy scores compared to controls. Other impairments were seen to measures of the ability to sustain attention, centrally process information and fluctuations in attention. Higher symptom severity assessed by CGI showed clear relationships to cognitive function decline in ADHD and schizophrenia, but no association at all in MDD (all Pearson's r <0.1). MDD patients showed a similar lack of association between cognitive function and either Hamilton Depression Ratings or the Sheehan Disability Scale (all r<0.1). Uher et al (Psychological Medicine 2012, 42, 967–980) recently demonstrated that an interest-activity symptom dimension (reflecting low interest, reduced activity, indecisiveness and lack of enjoyment) predicted poor treatment outcome in GENDEP and STAR*D; irrespective of overall depression severity, antidepressant type and outcome measure used. In the MDD sample this interest-activity dimension was associated with PoA, patients in the highest quintile having significantly poorer scores than patients in the 3 lowest quintiles (all p<0.03).
CONCLUSIONS While symptom severity is associated with cognitive decline in schizophrenia and ADHD, no such association was seen in MDD, even for PoA which showed a large effect sized impairment in the condition. However, in MDD a relationship was seen between this latter measure of attention/information processing and Uher et al's interest-activity dimension. This relationship will be further explored in terms of reponse to therapy and cognitive changes in the study.

Poster 3-94

SUPPLEMENTARY NURSE PRESCRIBING: AN ALTERNATIVE, SAFE, ACCEPTABLE, AND EFFECTIVE MODEL FOR INPATIENT SERVICE DELIVERY

Lead Author: Patricia Wain
Co-Author(s): Nitin Gupta, Nadine Taylor, Judy Waddell

SUMMARY:
INTRODUCTION: Supplementary Nurse Prescribing (SNP) is a concept introduced in the National Health Service (NHS) for over a decade now. Development and delivery of SNP has mainly focused on community care; including mental health. Our Trust is one of the foremost in developing and delivering SNP skills amongst mental health nurses across the UK. However, inpatient SNP has not received adequate attention, and there are only a handful inpatient nurse prescribers in acute wards across the UK. There is very limited research data on inpatient nurse prescribers.
METHODS: We carried out a service evaluation of a newly developed SNP model on an acute, inpatient set-up wherein we used the questionnaire approach to evaluate 12 patients managed by the SNP over a 6-month period.
RESULTS: Of the 12, there were 9 patients with SMI and complex clinical issues. All underwent complete clinical management care plans and reviews, with side-effect monitoring. All components of prescribing were practiced, and it was very intensive but time-effective. No patient discontinued the SNP process. There was excellent and satisfactory feedback from patients and named nurses alike.
CONCLUSION: We can conclude that the SNP inpatient model so developed has the potential to be implemented in other inpatient units with further extension into an Independent NP model.

Poster 3-95

SERVICE FOR SEVERE COMPLEX MULTI-TREATMENT REFRACTORY OBSESSIVE COMPULSIVE DISORDER

Lead Author: Himanshu Tyagi, M.D.
Co-Author(s): Dr Lynne M Drummond

SUMMARY:
The World Health Organization estimated Obsessive Compulsive Disorder (OCD) to be the 11th leading cause of non-fatal disease burden in the world in 1990, accounting for 2.2% of total years lost to disability (Üstün, Ayuso- Mateos, Chatterji, Mathers, & Murray, 2004). OCD respond well to treatment, however, more refractory conditions require specialised treatment services (Drummond, 1993; Boschen, Drummond and Pillay, 2008; Boschen, Drummond, Pillay and Morton, 2010). In UK, the National Specialist Commissioning Team (NSCT) in the Department of Health has commissioned a specialist service to deliver treatment for multi-treatment resistant patients with OCD using a stepped care model. We describe a novel and effective service model used in one of the NSCT commissioned national inpatient service for such patients which has been operational for about five years and has successfully treated over 200 individuals. The national service for OCD receives referrals from all over UK, covering a population of about 68 million individuals. Treatment is delivered in a specialist inpatient ward with nurses, occupational therapists, CBT therapists and Consultant Psychiatrist having expertise in the treatment of OCD. The criteria to access this service are as follows:

1. Patient must have the primary diagnosis of OCD with a minimum score on YBOCS of 30/40 (severe OCD).
2. Patient must have failed at least two full trials of pharmacotherapy with Serotonin Reuptake Inhibitors (SRI), each lasting at least 12 weeks in duration at maximum permissible dose of the SRI medication.
3. In addition to the above, the patient must have failed a fair trial with dopamine augmentation.
4. Patient must have failed at least two trials of psychological trials i.e. Cognitive Behavioural Therapy which must include Graded Exposure and Self Imposed Response Prevention.

The above criteria correlate to Level 6 in stepped care for OCD, as specified by National Institute of Clinical Excellence in England. Before presenting to this service, a typical patient suffers from OCD for about 18 years. This service gets up to 200 queries a year and admits and treats unto 40-50 patients as inpatient per calendar year. The treatment is delivered in a 10 bedded inpatient unit for a period of four-six months. The focus of the treatment is on intensive medication optimisation, supervised exposure and response prevention and occupational therapy (average for 200 hours in six months). Most of the patients are able to complete this treatment program with less than 10% dropout rate. The average improvement in YBOCS score before and after treatment is noted to be 34.5%, which is remarkable considering the complexity and severity of the cases treated. All patients are followed up at regular intervals for up to one year and majority of them are able to maintain or improve on the progress they have made.

Poster 3-96

SOCIODEMOGRAPHIC AND TREATMENT CHARACTERISTICS OF INFANTS AND CHILDREN IN MENTAL HEALTH TREATMENT IN A BRAZILIAN UNIVERSITY CLINIC

Lead Author: Valeria Soares Gularte, M.D., M.S.
Co-Author(s): Mariana K. Betts, Heitor B. F. Fernandes, Melina Feistler, Juliana R. Lorenzatto, Elaini A. Gonçalves, Carlos H. Kessler

SUMMARY:
The seek for Psychology services for children and adolescents in University Clinics has been investigated in several studies that aimed to characterize the users of these services. In most of these studies, the age group corresponding to infancy and childhood (from 0 to 12 years old) is shown to be more prevalent than other age groups. It has been suggested that this is due to infancy and childhood being periods of psychological structuring, and also due to the relative lack of public services offered to this age group. Based on that, the present study was a first attempt at investigating the sociodemographic profile and treatment profile of children from 0 to 12 years old that were in treatment at the Clinic of Psychological Treatment at Federal University of Rio Grande do Sul from August 2011 to August 2012. Considering that childhood treatment at this institution is conducted with an interdisciplinary perspective, patients' profile was established based on the following criteria: Age, sex, reason for seeking treatment, source of treatment referral, diagnostic hypothesis, duration of treatment, and type of treatment (Psychological, Psychopedagogical, or Phonoaudiological). Data were collected from the books of new patients' records. Simple descriptive analyses were conducted, according to which the relative frequency and absolute frequency of the variables aforementioned are presented. Sex differences and age differences in diagnostic hypothesis, duration of treatment and reason for seeking treatment are also presented. Discussion focuses on theoretical implications of the results to Psychiatry and mental health.

Poster 3-97

USE OF ANTIHYPERTENSIVES AFFECTS THE RENIN-ANGIOTENSIN PATHWAYS AND THE POSTTRAUMATIC STRESS SYMPTOMS IN KOREAN POSTTRAUMATIC STRESS DISORDER PATIENTS

Lead Author: Hyungseok So, M.D.
Co-Author(s): Changmin Go, MD, Taeyong Kim, MD, Jinhee Choi, MD, Haegyoung Chung, MD, Moonyoung Chung, MD

SUMMARY:
Objectives: The authors examined the relationship between the use of angiotensin receptor blockers(ARBs) and angiotensin converting enzyme inhibitors(ACEIs) and posttraumatic stress symptoms in Korean Vietnam War veteran posttraumatic stress disorder(PTSD) patients.
Methods: 68 PTSD patients were recruited from VHS Medical Center's outpatient population. Current Clinician Administered PTSD Scale(CAPS) total scores and its three subscales of intrusion, avoidance/numbness, and hyperarousal scores were compared between the use of ARBs and/or ACEIs groups and non-use groups.
Results: The use of ARBs and/or ACEIs (n=37) was associated lower CAPS total scores (58.49±19.90 vs. 69.87±19.11, p=0.02), intrusion subscale scores (16.76±6.15 vs. 20.16±6.38, p=0.03), and avoidance/numbness scores (22.54±10.17 vs. 29.13±10.50, p=0.01), but was not associated with hyperarousal subscale scores (19.16±7.45 vs. 20.61±7.50, p=0.43).
Conclusions: The use of ARBs and/or ACEIs is associated with lower PTSD symptoms in Korean Vietnam War PTSD patients.

Poster 3-98

EFFECT OF ASENAPINE IN TIME OF HOSPITALIZATION IN MANIAC INPATIENTS

Lead Author: Benjamin Pineiro, M.D., Ph.D.
Co-Author(s): Luis Delgado Cruz MD

SUMMARY:
Introduction: Maniac episodes in bipolar disorder patients are one of the most frequent diagnoses in psychiatric inpatients, showing a difficult management and long hospitalization periods. Asenapine, a new antipsychotic drug for maniac episodes in bipolar disorder patients has low side effects rates and a quick response of the sintomatology The objective of the study is to observe if subjects treated with Asenapine have lower time of hospitalization to compared to those treated with Olanzapine or Risperidone.

Methods: This is a retrospective study with 21 subjects diagnosed of bipolar disorder, severe maniac episode (7 treated with Asenapine, 7 with Risperidone and 7 with Olanzapine) We take data of hospitalization days, time to recovery in the last and previous hospitalizations, side effects and weight changes.
Results: Subjects treated with Asenapine shows lower time of hospitalization, and a lower time to recovery compare with the other groups. Also present lower hospitalization days in the episode treated with Asenapine than in previous episodes (treated with other antipsychotics). Sub treated with Asenapine also shows lower weigh gain.
Conclusions: Asenapine may be a very effective drug in maniac episodes treatment, and could reduce the time of hospitalization of those patients, with a great profile of adverse effects. More studies are necessary to confirm this results.

Poster 3-99

PSYCHIATRIC MORBIDITY AMONG INTERNALLY DISPLACED PERSONS IN PAKISTAN

Lead Author: Raza Rahman
Co-Author(s): Mehtab Ahmed, Sara Zafar, Naim Sidiqi

SUMMARY:
Background: Disaster can cause full range of physical and mental disorders. Presence of mental health problems contribute to difficulties in coping with resettlement in normal life.
Methodology: This is a cross sectional survey conducted in periphery of Karachi. Levels of exposure to traumatic events and PTSD were measured using the Harvard Trauma Questionnaire and levels of depression were measured using the Hopkins Symptom Checklist-25 (HSCL-25). Multivariate logistic regression was used to analyze the association of demographic and trauma exposure variables on the outcomes of PTSD and depression.
Results: Total 303 subjects included in this study. Depressive symptoms were significant high in majority (44%) of participants particularly more in female (p= .05). One third of the participants were exposed to the trauma and have symptoms of PTSD.
Discussion: Trauma and torture leaves a permanent scar on the survivors. It has physical, psychological and social squeals.. As psychological distress is common in IDPs so proper attention should be paid for rehabilitation of these affectees and psychiatric support should be provided specially to females who are more affected by psychological trauma

Poster 3-100

A CONTROLLED CLINICAL TRIAL OF A NEW TECHNIQUE FOR COGNITIVE TRAINING IN SCHIZOPHRENIA ON THE SUPPORT OF TV SERIES

Lead Author: Ines Garcia del Castillo
Co-Author(s): Magariños M, Hernando D, de la Vega Chimeno ML, Elizagárate E, Sanchez P, Caballero, L

SUMMARY:
We present the results of a controlled clinical trial with a new group technique for cognitive rehabilitation of schizophrenia .The "The Sopranos" TV series' first season (D. Chasse, 2004) was used as support. 28 patients with schizophrenia were randomly assigned to an experimental group (EG) and a control group (CG). Patients from EG were trained in the understanding of each chapter using an "ad hoc" designed technique (sequence by sequence). The CG was devoted equal time to talk about each patient's favorite characters and sequences. Both groups were treated by the same therapists. The 13 episodes were seen twice by each group . All patients were diagnosed as schizophrenia according to DSM-IV-TR criteria, were in a stable clinical condition and had a score < 40 on at least 2 domains of the MATRICS battery. Other inclusion and exclusion criteria in the study were also explicit. The following evaluation and measurement instruments were used: SCID, PANSS (positive scale, negative overall composite score); MCCB, 3 social cognition tests, PSP and others. Also 13 questionnaires, based on the content of each episode, were used. These questionnaires were developed by consensus between four psychiatrists and clinical psychologists. Each questionnaire had 30 items (20 on neurocognition and 10 on social cognition). An analysis of covariance with adjustment for baseline and assigned treatment protocol was made. There were no differences in agerelated groups, premorbid intelligence, diagnosis, other clinical measures (including the evolution time, inpatiens time, previous rehabilitation treatment, etc.) or demographic variables. Differences were statistically significant and favorable to EG scores in the following MCCB domains: MATRICS composite (comp AGT: mean difference -5.36 p <0.05), working memory (EM AGT mean difference -4.83, P <0.05) and verbal memory (VRBL Lrng -4.89,P>0.02). No differences between GE and CG in social cognition standardized scales were found. The ANOVA showed the following statistically significant differences in favor of EG scores of questionnaires based on the content of each chapter: Items "Neurocognition" Items "Social Cognition" "Total Items" Media G. Exp 10.17 (SD: 3.16) 4.83 (SD 1.33) 15.00 (SD: 4.21) Media G. Cont 6.39 (SD 2.56) 3.09 (SD: 1.19) 9.29 (SD 3.19) ANOVA p: 0004 p: 0008 p: 0001 The results suggest that this new technique may be effective in treating schizophrenia cognitive deficits. A second trial was launched to increase the sample size required to confirm or reject these results.

Poster 3-101

CLINICAL PREDICTORS OF NON-RESPONSE IN TREATMENT-RESISTANT DEPRESSION

Lead Author: Ylenia Barone, M.D.
Co-Author(s): Giorgio Di Lorenzo, Andrea Daverio, Cinzia Niolu, Alberto Siracusano

SUMMARY:
Background: Treatment Resistant-Depression (TRD), known as absence of response to antidepressant treatments (ADT), is a relatively frequent clinical condition (more than half of all patients with depression do not achieve remission after first-line antidepressant treatment). TRD is associated to a high number of relapses and admissions and to an elevated use of multiple pharmacological treatments. To date, however, there are no studies that correlate clinical variables to non-responder in TRD. The aim of the study is to identify predictors of non-response in inpatients with unipolar depression and criteria for TRD.
Methods: Two hundred fifty-three inpatients (164 women and 89 men; age, mean ± SD: 48.04 ± 11.19) were enrolled among those hospitalized with a diagnosis of Major Depressive Disorder (MDD), according to DSM IV criteria, and with a TRD condition (defined as the failure to respond to at least two different adequate trials of ADT in the current episode). Patients recruited for the study were divided into two groups, responders and non-responders to drug therapies, according to a decrease of 50% or more of the severity of depression (measured with HAM-D 17 items) at the end of 4 weeks of hospitalization. Statistical analysis was performed with the general model of Cox regression (with backward stepwise method) in order to identify independent predictors of non-response to treatment.
Results: One hundred fifty-four TRD inpatients were responders and 99 nonresponders. Cox regression identified three independent clinical predictors independently associated with the group of non-responders: (1) the presence of 5 or more depressive episodes in the medical history (OR = 2.27); (2) a current comorbid anxiety disorder (OR = 1.85); (3) a history of early life adversities (ELAs) (OR = 1.60).
Conclusions: The findings of this study suggest that the phenomenon of nonpharmacological response in the TRD is associated with different mechanisms, which would act in a separate way in determining the continuation of depressive symptomatology. Neurobiological factors seem play a key role in the prediction of the non-response in TRD patients. In fact a

high number of depressive episodes determines changes in the brain morphology, particularly in areas involved in antidepressant actions, and in mechanisms regulating neuroplasticity. The presence of a comorbid anxiety disorder might be explained by a shared GABA dysfunction. GABA is involved in regulation of hypothalamic-pituitary-adrenal axis (HPA) activity. A GABA dysfunction in TRD inpatients could worsen the HPA impairment and the hypercortisolemia state described in pathophysiology of resistance to ADT. As for the factor "high number of depressive episodes", ELAs is also accountable of structural and functional brain changes and might have a role in mediating pharmacoresistance through different biological pathways, independently reinforcing the mechanisms described for the two previous predictors.

Poster 3-102

FACTORS PREDICTING THE LIKELIHOOD OF LURASIDONE INITIATION IN A U.S. EMPLOYER DATABASE

Lead Author: Krithika Rajagopalan, Ph.D.
Co-Author(s): Nathan Kleinman, PhD; Richard Brook, MS, MBA; Abigail Cape, MS; Antony Loebel, MD

SUMMARY:
Objective: Understanding the characteristics' of patients that initiate a new antipsychotic in the market is important to determine the clinical-decision making patterns in real-world settings. To predict the demographic, diagnostic, comorbid, and prior drug utilization factors that may impact the likelihood of subjects initiating lurasidone, an analysis of a us employer data was conducted.
Methods: Analyses of administrative claims data from the Human Capital Management Services Research Reference Database comprised of multiple large geographically dispersed US employers from 2/1/2011(lurasidone launch) through 6/30/2012. All continuously enrolled subjects with a schizophrenia or bipolar disorder diagnosis with a prescription claim of lurasidone were classified as lurasidone subjects, those without a prescription claim for lurasidone were assigned to the control group. Demographics, Charlson comorbidity index (CCI) score, specific bipolar disorder or schizophrenia diagnoses, and use of atypical antipsychotics were described using means for continuous variables and proportions for categorical variables. Factors predicting the likelihood of initiating lurasidone or other atypical antipsychotics were evaluated using stepwise logistic regression. Results: From a total of 109 lurasidone subjects and 6981 controls, 43 lurasidone subjects (1.1%) and 3082 control subjects were eligible for analysis. The population was comprised of employees (41.4%), spouses (30.7%), and dependents (27.9%). The group with employees and spouses were 68% female, mean age 43.4 (SD=10.9) years, and had a mean CCI score of 0.67 (SD=1.34). Dependents were 46% female, mean age 21.5 (SD=8.9) years, and had a mean CCI score of 0.23 (SD=0.75). Within this study, the most commonly used atypical antipsychotics were: aripiprazole=30.1%, quetiapine=28.6%, risperidone=18.5%, olanzapine=11.6%, and ziprasidone=10.1%. Logistic regression results found that subjects with a schizoaffective disorder diagnosis (ICD-9 code 295.7x) or prior aripiprazole use had high odds ratios (both OR>4.5, P<0.0001) for initiating lurasidone. Additionally, subjects with "Bipolar I Disorder, Most Recent Episode Mixed" (ICD-9 code 296.6x), dependents, and those with prior quetiapine use were also more likely to initiate lurasidone than other subjects (OR=1.9, P=0.0597; OR=1.9, P=0.0519; OR=1.8, P=0.0525; respectively).
Conclusion: In this US employer database, subjects with a schizoaffective disorder and those using aripiprazole were over four times as likely to be initiated on lurasidone compared to the control group. Additionally, subjects with a mixed bipolar disorder diagnosis, dependents, and those using quetiapine were nearly twice as likely to be initiated on lurasidone. Replicating the analysis in databases with larger sample sizes may yield additional insights.

Poster 3-103

PREVALENCE OF MENTAL DISORDERS AMONG KARAJÁ INDIANS IN A PRIMARY PSYCHIATRY SERVICE

Lead Author: Daniela Londe Rabelo Taveira, M.D.
Co-Author(s): Paulo Verlaine Borges e Azevêdo, Leonardo Ferreira Caixeta

SUMMARY:
Introduction: Mental disorders are highly prevalent in the general population and are among the factors that most affect the quality of life, creating great social impact. The national literature that discusses mental disorders in indigenous is very scarce. Objectives: To characterize the sociodemographic profile and major psychiatric disorders that affect a sample of indigenous villagers who sought primary care mental health. Methods: We developed a retrospective cross-sectional study of a consecutive series of cases of Karaja Indians who sought primary care. Symptoms were classified as major syndromes: affective, anxiety, psychotic and organic, and then calculated the prevalence of each syndrome and psychiatric diagnosis according to DSM-IV, as well as their association with socio-demographic variables. Results: 63% of the sample were male. Aged 10-67 years, mean 30.7 years. Schooling to 1st elementary school was 46.2%, and 26.9% illiteracy. 54.5% are married. The affective syndrome was present in 50% of patients, depression in 28%, and 21% in Bipolar Disorder. The anxiety disorder accounted for 8%, the psychotic 15%, and 12% organic. Considering the whole sample, 20% are composed of married patients with affective syndrome. Of the patients diagnosed with affective syndrome, 30% had problems with alcohol and drugs, 38% had suicidal ideation, and suicide attempt 6%. Regarding treatment used, 35% and 33% of patients were on antidepressants and mood stabilizers, respectively. Conclusion: There is a high prevalence of Depression and Bipolar Disorder among the causes of mental disorder among Indians who seek primary care.

Poster 3-104

METABOLIC SYNDROME AMONG PATIENTS WITH CHRONIC MENTAL DISORDERS TREATED WITH ANTIPSYCHOTICS

Lead Author: Luis Gabriel Herbst, M.D.
Co-Author(s): Saidman N, Cassanelli M, Herbst L, Leiderman E, Goldchluk A, Cortesi S, Wikinski S

SUMMARY:
Introduction: People affected by chronic mental disorders have an increased cardiovascular risk. Antipsychotic treatment could contribute to it by inducing metabolic syndrome. The aim of this study is to obtain local data about the prevalence of metabolic syndrome in patients with chronic mental disorders treated with antipsychotics in an outpatient unit. The study was approved by the Ethics Committees of the Hospital Borda and the School of Pharmacy and Biochemistry, University of Buenos Aires.
Method: All patients treated with antipsychotics who consulted consecutively in the outpatient unit between July and August 2011 were included. The sample consisted of 123 patients (107 men and 16 women),86 were diagnoses with schizophrenia, n=19 with bipolar disorder and 18 with other diagnoses. . Demographic data were obtained, and anthropometric and blood pressure measurements were performed. A blood sample was obtained to perform the following biochemical analyses: fasting blood glucose, insulin, total cholesterol, LDL and HDL cholesterol, triglycerides, CRP and TSH
Results: Using the ATP-III criteria (NCEP) 35.5% of men and 56.2% of women presented metabolic syndrome. Both the percentage of men and women affected is higher than that observed in the general population in Argentina (estimated at 21 to 28% of men and 14 to 22% of women),. Central obsesity seems to contribute to this prevalence Chi square analysis revealed no statistical differences between prevalence of metabolic syndrome in patients receiving typical or atypical antipsychotics, or receiving one or more than one antipsychotic.

Time elapsed from the beginning of pharmacological treatment (i.e. less vs more than 15 years) was neither related with the presence of metabolic syndrome.
Conclusion: This is the first local work aimed to investigate the prevalence of metabolic syndrome in patients treated with antipsychotics. Our results show a prevalence similar to that reported in CATIE study, and significantly higher than that observed in the general population, according to published data in our country.

Poster 3-105

EFFICACY OF COGNITIVE REHABILITATION USING COMPUTER SOFTWARE IN PEOPLE WITH SCHIZOPHRENIA: A RANDOMIZED CONTROLLED TRIAL

Lead Author: Kazuhiko Iwata, M.D., M.P.H.
Co-Author(s): Yasuhiro Matsuda, MD, Sayaka Sato, PhD, Shunichi Furukawa, MD, Norifumi Hatsuse, MD, Yukako Watanabe, MD, Emi Ikebuchi, MD, PhD

SUMMARY:
Objective: People with schizophrenia can continue to have cognitive deficits even after their psychotic symptoms improve. Previous studies have demonstrated the correlation between cognitive functions and functional outcomes. Therefore, improvement in cognitive functions is an important goal in "recovery" through treatment of schizophrenia. This study examined whether cognitive rehabilitation is more effective than standard treatment in improving both cognitive and social functions in people with schizophrenia in Japan.
Method: *#Design and Participants* For this multicentre randomized controlled trial, we recruited outpatients with schizophrenia from six psychiatric medical centers in Japan and randomly assigned them to either a cognitive rehabilitation group (CRG) or a control group (CG). *#Intervention* In combination with 12 weeks of treatment as usual, cognitive rehabilitation was administered twice a week to the CRG using computer software (CogPack®). The CRG also received bridging group treatment once a week according to the Thinking Skills for Work program (McGurk SR, 2007). The CG received treatment as usual only. *#Outcomes* Cognitive and social functions were assessed using the Brief Assessment of Cognition in Schizophrenia (BACS) and Life Assessment Scale for Mentally Ill (LASMI), respectively. *#Statistical Methods* We compared scores for cognitive and social functions in both groups after intervention using analyses of covariance. In addition, possible correlations between changes in cognitive and social functions were analyzed.
Results: Of the 63 people with schizophrenia enrolled, 31 were allocated to the CRG. No significant differences in demographic data or BACS scores were observed between the groups at baseline. After intervention, the composite score on the BACS showed significantly greater improvement in the CRG than the CG (change in composite score on the BACS (z-score): CRG +0.41, CG +0.10). Improvement in the verbal memory, motor speed, and executive function subscales of the BACS was greater in CRG. In addition, interpersonal relationship skills and work skills recovered significantly more in CRG as assessed by LASMI. We also found significant correlations between fluency task and interpersonal relationship skills and between attention task and work skills.
Discussion: The present findings demonstrate that cognitive rehabilitation caused improvement in both cognitive and social functions. Many participants in this study attended the rehabilitation programs in day treatment centers. Therefore, cognitive rehabilitation may promote the efficacy of these psychosocial rehabilitations targeted social functions. These results suggest the efficacy and importance of treatment focused on cognitive deficits to achieve "recovery" in people with schizophrenia.
Study ethics: The institutional review boards at each site approved this study. All authors report no conflict of interests.

American Psychiatric Association

NEW RESEARCH ABSTRACTS

MAY 19, 2013
POSTER SESSION 4
SUICIDE, MILITARY, PTSD, AND OTHERS

NR4-01
A RANDOMIZED CONTROLLED CROSSOVER TRIAL OF KETAMINE IN OBSESSIVE-COMPULSIVE DISORDER

Lead Author: Carolyn Rodriguez, M.D., Ph.D.
Co-Author(s): Lawrence S. Kegeles, M.D., Ph.D., Amanda Levinson, B.S., Sue Marcus, Ph.D., Helen Blair Simpson, M.D., Ph.D.

SUMMARY:
Background: First-line Obsessive-compulsive disorder (OCD) pharmacological treatments lead to limited symptom relief and typically have a lag time of 6-10 weeks before clinically meaningful improvement. Identifying pharmacological treatments with faster onset of action would be a major advance. Medications thought to modulate the glutamate system are a promising new class of pharmacological agents for the treatment of OCD. Ketamine, a non-competitive N-methyl-D-aspartate (NMDA) receptor antagonist, modulates glutamate and has been shown to have rapid anti-depressant effects in multiple studies and rapid anti-obsessional effects in one case study and one open label study. We investigated the effects of ketamine on unmedicated individuals with OCD who did not have moderate to severe comorbid depression.
Methods: In a randomized, double-blind, placebo-controlled, crossover design, unmedicated adults (N=10) with OCD received two intravenous infusions: one of saline and one of ketamine (0.5mg/kg) over 40 minutes. These infusions were spaced at least 1 week apart; the order of each pair of infusions was randomized. Participants had at least moderate to severe OCD (Yale-Brown Obsessive-Compulsive Scale [YBOCS] score > 16) with no or mild depression (Hamilton Depression Rating Scale [HDRS-17] < 25), and endorse near-constant intrusive obsessions (>8 hours per day). To assess OCD symptoms, the YBOCS scale, designed to be used to assess OCD symptoms at 1 week intervals, was used at baseline and 7 days post-infusion. To monitor depressive symptoms, the HDRS-17 was used at baseline and 1 and 3 days post-infusion. Response rate for OCD symptoms was defined as a minimum of 35% reduction in OCD symptoms on the YBOCS.
Results: All ten participants completed the study. At baseline, participants had moderate to severe OCD symptoms (mean YBOCS 27.1+/-3.4 SD, range: 22-34). Responder rate (n=10) for OCD symptoms (as measured by YBOCS) was 50% at day 7. Responder rate for OCD symptoms among the subset of patients (n=5) who got the ketamine infusion first (and thus the effects of ketamine could be evaluated at both day 7 and day 14), was 40% at day 14.
At baseline, participants had minimal depressive symptoms (mean HDRS 4.2+/-5.6, range: 0-16). The average depressive symptoms of the 10 patients did decrease somewhat after the ketamine infusion (4.2 +/- 5.6 to 1.8 +/- 1.9, $F(2,17) = 3.38$, $p = 0.058$).
Conclusions: These data suggest that ketamine can rapidly relieve symptoms of OCD, and this effect can persist for at least one week in 50% of OCD patients with constant intrusive thoughts. A subset of individuals had relief for up to two weeks.

NR4-02
ACCEPTABILITY AND EMPATHY FOR SUICIDAL BEHAVIOR INCREASES RISK OF FUTURE SUICIDE ATTEMPTS IN PSYCHIATRIC INPATIENTS

Lead Author: Irina Kogan
Co-Author(s): Jessica Briggs, B.A.
Igor Korostyshevsky, M.D.
Irina Kopeykina, B.A.
Zimri Yaseen, M.D.
Igor Galynker, M.D., PhD

SUMMARY:
OBJECTIVE: The prediction and prevention of suicide is one of the most challenging and important responsibilities of the clinician. Though there exists robust data detailing the risk factors that often lead to a suicide attempt, there is not a single tool that may be used for prediction. A questionnaire assessing attitudes toward suicidal behavior is currently under clinical testing in efforts to derive an effective scale that may be used to identify patients that are more likely to attempt suicide after discharge from a psychiatric hospital.
METHODS: The 100-item questionnaire was administered to 99 adult psychiatric patients recruited from the inpatient units at Beth Israel Medical Center and St. Luke's-Roosevelt Hospital Center during a semi-structured interview. Follow up interviews were conducted two months following discharge to determine presence or absence of subsequent suicide attempts. A two-tailed t-test was used to determine items on the questionnaire with mean scores that differed significantly between the patients who had attempted suicide during the follow up period and those who had not. Furthermore, a Receiver Operating Characteristic (ROC) analysis was used to determine the ability of the derived scale to predict subsequent suicide attempts.
RESULTS: 10 of the 34 participants who were reached for a follow up interview had attempted suicide during the follow up period (29%). Of the 100 items on the questionnaire, 18 were identified using a two-tailed t-test as having mean scores that differed significantly between patients who attempted suicide within two months of discharge and those who did not. Using reliability and factor analysis, 17 of these items were compiled into a scale which predicted suicide attempt after discharge with 85% sensitivity and specificity using the optimal cutoff score of 41 (AUC = .912). The majority of the 17 items endorsed acceptability of, empathy for, and insight into suicidal behavior. Lower scores indicated stronger agreement with the statements, and patients with lower scores were more likely to make a suicide attempt during the follow up period.
CONCLUSION: Patient scores on the 17-item scale derived from a questionnaire assessing attitudes toward suicidal behavior were significantly associated with a suicide attempt made two months following discharge from a psychiatric unit. Scores below 41 on the scale associate with a suicide attempt within two months, while scores of 41 and above

do not. The scale can be utilized as a predictive measure of future suicide attempt risk in recently discharged psychiatric inpatients.

NR4-03

ASSOCIATION OF SPIRITUALITY AND MENTAL HEALTH IN AN OHIO ARMY NATIONAL GUARD SAMPLE

Lead Author: Marijo B. Tamburrino, M.D.
Co-Author(s): Greg Cohen, MSW, Stephen Ganocy, PhD, Philip Chan, MS, Kimberly Wilson, MSW, Robert Roether, Sandro Galea, MD, Israel Liberzon, MD, Thomas Fine, MA, Toyomi Goto, MA, Edwin Shirley, PhD, Marta Prescott, PhD, Nicholas A. Chou, MAJ, Renee Slembarski, MBA, Joseph R. Calabrese, MD

SUMMARY:

INTRODUCTION As concerns rise about suicide rate and the mental health of our military forces, factors that promote resiliency are being sought. Although much has been written about spirituality as a coping mechanism in the civilian population, including religiosity being associated with lower depression levels, there are limited studies in military samples. The current study explores the association of spiritual well-being with selected mental conditions in a military sample.
METHODS Data was analyzed from a population-based sample of 418 Ohio Army National Guard (OHARNG) soldiers who participated in a telephone survey that assessed PTSD (17-item PCL), Depression (PHQ-9), Alcohol Use Disorders (MINI 14-item scale) and Suicidal Thoughts (PHQ-9). Participants also completed demographic questions and a 20-item self-report instrument, the Spiritual Well-Being Scale (SWBS). The SWBS measures overall spiritual quality of life and has subscale scores for existential well-being (EWB), religious well-being (RWB), and spiritual well-being (SWB). Subscale scores of the SWBS were summed and split into high and low well-being scores based on the median value. Chi-square tests were performed to compare proportions of mental health conditions within strata of high compared to low SWB, EWB, and RWB.
RESULTS 355 of the 418 subjects who agreed to participate completed all the survey questions. Participant demographics matched those of the overall OHARNG in being primarily male (87.9%), white (90.3%), ages 17-34 years old (65.4%) and married (52.7%) Overall, high SWB scores were associated with lower prevalence of depression in the past year [4.97% (N=9) vs. 17.24% (N=30), $p<0.01$], lower prevalence of Alcohol Use Disorder (AUD) in the past year [6.08% (N=11) vs. 13.22% (N=23), $p<0.01$] and lower prevalence in the past year of any (>1) mental health condition, including PTSD, Depression, AUD or Suicidal Thoughts [14.92% (N=27) vs. 29.89% (N=52), $p<0.01$]. Prevalence of PTSD alone or prevalence of suicidal thoughts alone were not associated with SWB scores, or EWB and RWB subscale scores.
DISCUSSION Our main finding of high spirituality being associated with lower depression and alcohol use disorders has important implications, as these were the two most prevalent mental conditions in this study. More research is needed to understand the complexity of spirituality in the military, including interactions regarding deployment. The SWBS is an easily administered instrument (10 – 15 minutes to complete), which could be a helpful tool in assessing the spiritual resilience programs being developed by the military.

NR4-04

AUDIO GUIDED PROGRESSIVE MUSCLE RELAXATION AS AN ADJUNCT THERAPY FOR INSOMNIA IN INPATIENT PSYCHIATRY

Lead Author: Liliya Nemirovskiy, M.D.

SUMMARY:

Amongst the inpatient psychiatric population, insomnia accounts for a large amount of administered pharmaceutical therapeutics. Limiting these medications can avoid adverse side effects and drug interactions with concomitant therapeutics. Overmedication and medication dependence also remain a potential hazards in the inpatient setting. The goal of the study is to determine if audio guided progressive muscle relaxation can decrease the amount of sleep aids used. In the control group, the use of as needed sleep aids, diphenhydramine and trazodone, were recorded for a three week period on an inpatient unit. For the following three weeks, at 21:30 the study group was offered an audio guided progressive muscle relaxation session as an adjunct on the same unit. The use of these as needed medications in the study group was compared to the control group. Fewer medications were requested when audio guided progressive muscle relaxation techniques were offered. These findings suggest that voluntary patient engagement of audio guided progressive muscle relaxation decreases the amount of requested medication. This may imply a role as an adjunct or a potential replacement of sleep aids for insomnia.

NR4-05

CHARACTERISTICS OF AWARENESS OF SUICIDE-RELATED ISSUES AMONG PEOPLE IN THE COMMUNITY

LEAD AUTHOR: JONGGOOK LEE, M.D.
Co-Author(s): Mi-Ran Wang, MA., Mijung Yoon,*

SUMMARY:

Objective: This study was conducted to investigate attitude and knowledge for suicide as well as needs for suicide-related services among people in a city of South Korea
Methods: Subjects of this study were 614 persons (188 general citizen, 385 personnel of mental health-related agencies, 41 participants in gate-keeper education) aged between 18 and 75. Participants completed survey consisted of attitude toward suicide, suicide-related quiz, service needs and others during Mental Health Day event, Gate-Keeper training sessions, and other occasions.
Results: The participants who were male, police, older people(>50 years old) and who never knew or referred to Seongnam Community Mental Health Center (SCMHC) showed negative attitudes toward suicide (attempters). 89.5% of participants thought that suicide could be preventive. However, only 27% of participants thought that asking about suicide

would reduce suicidal risk. Christians, professionals, university graduates, and people who knew and used SCMHC showed higher level of knowledge for suicide. There was a positive correlation between knowledge level and the attitude toward suicide (attempters). They showed needs for mental health-related education, emergency out-reach for crisis cases, continuous case management after psychiatric evaluation, suicide counseling, and intervention for suicide attempters in order. Conclusion: This study presented exploring data about attitude and knowledge for suicide (attempters) among people in a city of Korea. Education program for improving the knowledge level of suicide may be necessary to change attitude toward suicide (attempters) in more positive direction.

Key Words: Community mental health, attitude toward suicide (attempters), knowledge of suicide

NR4-06
CHARACTERISTICS OF NARCOLEPSY WITH AND WITHOUT CATAPLEXY

Lead Author: Seung Chul Hong, Ph.D.
Co-Author(s): Jong-Hyun,Jeong
Tae-Won, Kim
Mi-Jin,Lee
Ju-Hee,Han

SUMMARY:

Introduction : When the typical cataplexy is clearly present, narcolepsy with cataplexy can be diagnosed without multiple sleep latency test. But in case of narcolepsy without cataplexy, there are no specific clinical characteristics except hypnagogic hallucinations and sleep paralysis. And little is known about the differences of clinical and genetic characteristics between narcolepsy with and without cataplexy.
Methods : One hundred and three narcolepsy with cataplexy patients and Seventy two narcolepsy without cataplexy patients were recruited at Sleep Center of St. Vincent's hospital. The demographic, clinical data the multiple sleep latency test data and polysomnographic findings from the time of their diagnosis were reviewed. The HLA typing was performed.
Results :ESS score and nocturnal sleep disturbance were significantly lower in narcolepsy without cataplexy patients. 26.9% of narcolepsy without cataplexy patients showed hypnagogic hallucinations positive, while 58.3% of narcolepsy with cataplexy patients were hypnagogic hallucinations positive. 35.8% of narcolepsy without cataplexy patients reported sleep paralysis, while 61.0% of narcolepsy with cataplexy patients experienced sleep paralysis. HLA DQB1*0602 positivity was 41.8% in narcolepsy without cataplexy and 66.3% in narcolepsy with cataplexy patients. Mean sleep latency was longer in narcolepsy without cataplexy, and the number of SOREMPs were lower in narcolepsy without cataplexy. The total sleep time and sleep efficiency were significantly higher in narcolepsy without cataplexy patients. The REM latency was longer in narcolepsy without cataplexy patients. Conclusion: HLA positivity and REM propensity might be related with excessive day time sleepiness severity, hypnagogic hallucinations and sleep paralysis in narcolepsy without cataplexy patients.

NR4-07
CHILDHOOD TRAUMA AND THE RISK OF SUICIDE: ANALYSIS OF THE CTQ IN SUICIDAL PSYCHIATRIC INPATIENTS

Lead Author: Jennifer Katherine Boland
Co-Author(s): Zimri Yaseen, M.D.
Irina Kogan, M.D.
Irina Kopeykina, B.A.
Fumitaka Hayashi, M.D., PhD
Anna Kreiter, B.A.
Igor Galynker, M.D., PhD

SUMMARY:

OBJECTIVE: Current research demonstrates an imperative need for identifying factors that contribute to suicide risk in psychiatric patients. Childhood trauma has been associated with a wide range of psychiatric disorders and is known to be a chronic risk factor for suicide in adulthood. As such, childhood trauma is important to consider when defining risk factors that lead to an imminent suicide attempt. At present, it remains unclear to what extent childhood trauma contributes to and has a "dose-response" relationship with acute suicide risk. We aim to investigate the relationship between childhood trauma and imminent suicide attempts in psychiatric inpatients using the Childhood Trauma Questionnaire (CTQ).
METHODS: The 25-item CTQ was administered to 174 adult psychiatric inpatients who were admitted to Beth Israel Medical Center and St. Luke's Roosevelt Hospital Center with either suicidal ideation or a suicide attempt. This scale was administered during a semi-structured interview that collected demographic and clinical information along with data from psychometric scales such as the Beck Depression Inventory (BDI). Multiple statistical methods were used to evaluate the relationships among the data collected from the CTQ and these other scales.
RESULTS: There were no significant results when the CTQ subscale scores (Emotional Abuse, Physical Abuse, Sexual Abuse, Emotional Neglect, and Physical Neglect) were compared between patients admitted to the hospital with suicidal ideation and those admitted with an attempt. Likewise there was no statistical difference in CTQ subscale scores between patients who attempted suicide after two months of being discharged and those who did not. There were, however, significant positive correlations between the severity of suicidal ideation and the CTQ Emotional Abuse subscale score; r=0.244, p=0.003, and between severity of suicidal ideation and CTQ Physical Abuse subscale score; r=0.233, p =0.005. The Emotional Abuse subscale score also showed a significant positive correlation with the BDI total score; r=0.221, p=0.008, as well as with all other CTQ subscale scores.
CONCLUSION: Higher scores on the Emotional and Physical Abuse CTQ subscales associate with both increasing measures of depression and increasing severity of patients' suicidal ideation. Our results suggest that retrospectively assessed childhood emotional and physical abuse correlates with severity of depressive symptoms but does not differentiate between those with suicidal ideation and those who are at risk for an imminent suicide attempt.

NR4-08
CHILDREN AND ADOLESCENTS WITH ANOREXIA NERVOSA: IQ AND COGNITION

Lead Author: Gry Kjaersdam Telléus
Co-Author(s): Jens Richardt Jepsen, Center for Neuropsychiatric Schizophrenia Research, Glostrup Psychiatric Hospital
Birgitte Fagerlund, Center for Neuropsychiatric Schizophrenia Research, Glostrup Psychiatric Hospital
Mette Bentz, Mental Health Center for Child and Adolescent Psychiatry Bispebjerg
Eva Christiansen, Private Practice of MD, Ny Vestergade 7, Copenhagen
Per Hove Thomsen, Aarhusn University Hospital, Risskov, Regional Centre of Child- and Adolescent Psychiatry

SUMMARY:
Background: Cognitive deficits in the domains of executive functions, visual–spatial ability, attention, learning and memory have previously been identified in adult women with anorexia nervosa. Currently, there is limited knowledge about the degree to which cognitive functions in children and adolescents with anorexia nervosa are equally impaired.

Method: The current purpose was to examine whether cognitive functions in children and adolescents are impaired by Anorexia Nervosa, the type and degree of the cognitive impairment and the correlation between intelligence, co-morbidity and symptomatology. Another purpose of the study is to examine the role of gender, age and weight on cognition.

The study population consists of a cohort of patients with Anorexia Nervosa (n: 93). A second cohort of healthy control subjects is also established. It consists of 1:1 corresponding individuals matched for age, gender, and demographic background (n: 93).

The following factors are examined as part of the research design: Anorexia Nervosa symptomatology, onset and development, somatic condition and co-morbidity, neuropsychological assessment of cognitive functions and IQ.
Data is collected in a database, established at the Unit for Psychiatric Research, Aalborg Psychiatric Hospital.
The data is gathered at

- Section of Eating Disorders, Unit for Child and Adolescent Psychiatry, Aalborg Psychiatric Hospital
- Mental Health Center for Child and Adolescent Psychiatry Bispebjerg
- Private Practice of MD Eva Christiansen, Ny Vestergade 7, Copenhagen
- The healthy control group is recruited from local schools and colleges

Results: The patient cohort consists of 83 females and 10 males with a mean age of 14.3 years. The probands in the cohort have a BMI (age corrected) of 15.7
There is a considerable history of eating disorders and other mental disorders in the cohort subjects families (parents, siblings or other relatives).

Conclusions: Findings from this study suggest that there is less impairment of cognitive functions in children and adolescents with anorexia nervosa than expected. No differences in IQ were found between the probands and the control subjects.

NR4-09
CHRONOBIOLOGICAL THYROID AXIS ACTIVITY AND SUICIDAL BEHAVIOR IN PATIENTS WITH DEPRESSION

Lead Author: Fabrice Duval, M.D.
Co-Author(s): Marie-Claude Mokrani, Felix Gonzalez Lopera, Xenia Proudnikova, Hassen Rabia, Alexis Erb

SUMMARY:
Background: The aim of this study was to investigate the relationship between suicidal behavior and chronobiological hypothalamic-pituitary thyroid (HPT) axis activity in depressed patients.
Methods: The serum levels of thyrotropin (TSH), were evaluated before and after 8 AM and 11 PM thyrotropin-releasing hormone (TRH) challenges, on the same day, in 230 medication-free DSM-IV euthyroid major depressed inpatients and 50 healthy hospitalized controls.
Results: Compared to controls: 1) patients with a recent suicide attempt (n=71) showed lower TSH response to TRH (?TSH) at 11 PM, lower ??TSH values (differences between 11PM-?TSH and 8AM-?TSH) ($p<0.03$ and $p<0.00001$, respectively), and lower free thyroxine (FT4) levels ($p<0.00001$); 2) patients with a past suicide attempt (n=52) showed no major alteration of the HPT axis activity; 3) patients without a suicide attempt history (n=107) showed both lower 8 AM-?TSH and 11-PM ?TSH ($p<0.04$ and $p<0.000001$), and lower ??TSH values ($p<0.000001$), but no alteration of circulating thyroid hormone levels.
Conclusions: Our results suggest that in patients without a suicide attempt history increased hypothalamic TRH stimulation, leading to downregulation of the TRH receptors of the pituitary thyrotrophs (as evidenced by reduced TSH responses to TRH), might be a compensatory mechanism. In patients with a suicide history this compensatory mechanism is not effective. Moreover, in patients with a recent suicide attempt the evening TSH blunting, associated with reduced FT4 levels, might be indicative of a decreased central TRH activity leading to a reduction in the TSH resynthesis in the thyrotrophs during the day after the morning challenge.

NR4-10
CLINICIANS' EMOTIONAL RESPONSES MAY BE PREDICTIVE OF ATTEMPTED AND COMPLETED SUICIDE

Lead Author: Hetal Bhingradia, M.D.
Co-Author(s): Jessica Silberlicht, MD, Kali Orchard, MD, Dragos Serseni, MD, Nadia Streptova, MD, Irina

Kopeykina, BA, Lisa Cohen, PhD, Zimri Yaseen, MD, Igor Galynker, MD PhD

SUMMARY:
OBJECTIVE: Predicting suicide is an area where psychiatrists continue to struggle. Studies have shown that certain symptoms or behaviors may help predict acute suicide1,2. However, despite suggested clues, physicians remain largely unable to accurately predict which patients commit suicide. This study extends research on this topic examining treaters' emotional reactions towards suicidal and other patients.

METHODS: Subjects included 83 physicians, psychologists and social workers who were recruited electronically through the Continuum Health Partners mailing list. Subjects were asked to fill out the anonymous, on-line questionnaire assessing their counter-transference responses towards various types of patients. Patient types included: those who attempted suicide with high lethality attempts, with low lethality attempts, those who completed suicide, and those who died a sudden, non-suicidal death.

RESULTS: Twenty-eight subjects responded to condition 1 (High Lethality), 26 to condition 2 (Low Lethality), 15 subjects to condition 3 (Unexpected Death), and 12 subjects to condition 4 (Completed Suicide) . Means for 23 questionnaire items differed significantly or marginally significantly by independent t-tests ($p<0.1$) for contrast Any Suicide vs. Unexpected Death. ($N = 66, 16$, respectively). A high proportion of clinicians reported feeling overwhelmed/disorganized, criticized/mistreated, disengaged, and helpless/inadequate in sessions preceding patients' suicidal behavior.
When comparing High Lethality and Completed Suicide vs Low Lethality and Unexpected Death conditions, 13 items significantly or marginally differed across conditions ($N = 39, 41$, respectively). These items also described a high proportion of providers feeling overwhelmed/disorganized, criticized/mistreated, disengaged, and helpless/inadequate in the sessions preceding high lethality attempts.

Scores derived from the combination of these items significantly distinguished Suicidality vs Unexpected Death. Area under receiver-operator characteristic curve (AUC) = .810, $p = 0.001$, with sensitivity = .610 and specificity = .923 at the optimal cut point.

Items differing significantly between High Lethality and Low Lethality groups were combined to create a High Lethality vs Low Lethality scale; this scale significantly discriminated between these two groups with AUC = .712, sensitivity = .610 and specificity = .692 at the optimal cut point, $p = 0.014$.

CONCLUSION: Our study shows that clinicians report having experienced more feelings of being overwhelmed/disorganized, criticized/mistreated, disengaged, and helpless/inadequate toward patients shortly before a suicide attempt (high lethality attempt or completion) compared to low lethality attempts or sudden, non-suicidal death. This study suggests that specific emotional responses experienced by the clinician may be useful in indentifying patients that are at high risk for imminent suicide.

NR4-11

COGNITIVE PROFILE OF COMPULSIVE BUYERS

Lead Author: Katherine Derbyshire, B.S.
Co-Author(s): Dr. Jon E. Grant

Dr. Samuel Chamberlain

Liana Schreiber

SUMMARY:
Objective: Compulsive Buying (CB) is a fairly common behavior that is estimated to affect 5.8% of the population. Past research has examined many of the characteristics of CB, including demographics and psychiatric comorbidities; however, further research is needed to examine the cognitive component of this behavior.
Method: A sample of 23 compulsive buyers were examined from a larger sample (6.7%, mean age 22.3 ± 3.5, 60.9% female) using tasks to measure cognitive functioning. Compulsive buyers were compared to age and sex matched controls without CB on cognitive tasks as well as depression scores and levels of impulsivity.
Results: We found no significant differences between the groups on age (p=.146) and gender (p=.147). Significant differences were found between the groups on a spatial working memory (SWM) task on strategy (p=.038), between errors (p=.030) and the number of total errors (p=.039), on the Cambridge Gambling Task (CGT) risk adjustment (p=.003), Stop Signal Task last half and part A of Rapid Visual Information Processing (p=.041). The compulsive buyers had significantly higher depression scores (p=.008) and significantly higher scores of impulsivity (p<.0001).
Conclusions: These data suggest that compulsive buyers have greater cognitive deficits compared to non compulsive buyers, as well as higher levels of depression and impulsivity. More research is warranted to further evaluate the neurocognitive differences in those with CB and then implications of those differences.

NR4-12
COMBINED PSYCHOLOGICAL-OPIATE INTERVENTIONS REDUCE PTSD SYMPTOMS IN PEDIATRIC BURN PATIENTS

Lead Author: Frederick J. Stoddard Jr, M.D.
Co-Author(s): Laura D. Stone, MA, PsyD Candidate
Atilla Ceranoglu, M.D.
Erica Sorentino, MA
David S. Chedekel, Ed.D.
J. Michael Murphy, Ed.D.
Robert L. Sheridan, M.D.
Ronald G. Tompkins, M.D., Sc.D.

SUMMARY:
Infants and toddlers account for 50% of all pediatric burn injuries, but few studies on post-traumatic outcomes have

included pre-school children. Hypothesis: This study examined the hypothesis that the combined effect of psychosocial interventions for caregivers and pharmacological interventions with young burned children would reduce PTSD symptoms. Method: The key measure analyzed was the Posttraumatic Stress Disorder Semi-Structured Interview and Observational Record (PTSDSSI) (Sheeringa, 2003). This semi-structured interview for caregivers contains all of the DSM-IV PTSD diagnosis items, as well as appropriate developmental modifications to assess PTSD in pre-school age children. Results: One-way ANCOVA model was calculated using the patient's follow-up PTSD score as the dependent variable with the independent variable being whether or not they received the psychological intervention. The covariate for this model was the patients' baseline PTSD scores, which statistically controlled for preexisting differences in the baseline scores. After analyzing psychosocial and opioid interventions, n of 30, the results showed reduction (p=.04) in mean follow-up PTSD scores (psychosocial & medication M=of 3.62 to medication alone M=1.55). Conclusion: These results support the hypothesis that combined interventions are superior to medication alone. Future research with larger samples is needed to optimize treatment for young children with severe trauma.

This study was supported with grants from the Shriners Hospitals for Children, and the Alden Trust.

NR4-13
DESCRIPTIVE STUDY OF PATIENTS TREATED WITH SELEGILINE TRANSDERMAL SYSTEM (STS) AT THE DEPARTMENT OF VETERAN AFFAIRS

Lead Author: Kimberly Blanchard Portland, Ph.D.
Co-Author(s): Scott L. DuVall, PhD
Kimberly B. Portland, PhD
Rob Mariani
Aaron W.C. Kamauu MD, MS, MPH

SUMMARY:

Background
Currently one in six people experience a depressive episode in their lifetime, but only 50% of those seek treatment. The American Psychiatric Association (APA) has recommended MAOIs as potentially beneficial for patients with atypical depression and for those that have failed to see improvement on other antidepressants. In 2006, the FDA approved the use of selegiline (an MAOI) as a transdermal patch for the treatment of depression in adults. The majority of research that has been conducted on patients treated with selegiline transdermal system (STS) was completed in 2008 or earlier covering less than two years after FDA approval. This study looked to identify and describe patients treated with selegiline transdermal system in the Department of Veterans Affairs (VA).

Methods
Patients with at least one prescription/medication record for STS between 1/1/2006-7/31/2012 and at least 180 days of baseline healthcare coverage in the VA system (defined as a visit, medication, lab or procedure that happened 180 days or more prior to index date) were included in the study. The index date was defined as the first documented STS record. Descriptive statistics, including age, gender, race, BMI, and index year, were determined. Documented diagnoses (using ICD-9 codes) and medications were explored in the 180 days before and after the index date.

Results
818 patients were found with at least one prescription for STS in the study period. Of those, 719 patients (16% females, mean age 54.8 years SD 13.3, 36% BMI 25.0-29.9, 41% BMI ? 30.0) had at least 180-day baseline health coverage. 76% of patients had a documented diagnosis for Major Depressive Disorder (MDD) in the 180 days after and including the index date. 39% had a documented diagnosis for PTSD, 37% for Anxiety, 15% for Bipolar Disorder, 9% for Personality Disorder, and 5% for Parkinson Disease, during the same time period. The majority of patients, 630 (88%), were treated with 6 mg/24 hr STS compared to the 9 mg, 192 (27%), and 12 mg, 79 (11%), doses in the 180 days after and including the index date. In addition, 165 (23%) patients also had a prescription for another MDD treatment, 324 (45%) for a Bipolar Disorder treatment, 44 (6%) for a Parkinson's Disease treatment, and 9 (1%) for a Alzheimer's Disease treatment in the same time period.

Conclusion
Although indicated for MDD, only 76% of patients treated with STS had a documented diagnosis for MDD after starting STS treatment. Diagnosis and treatment for other related conditions was seen among these patients. This patient population will be furthered studied in terms of change in treatment patterns, change in weight/BMI, and rates of specific short-term/long-term outcomes of interest.

NR4-14
DISTINCT SUBGROUPS OF SUICIDE DEATHS BY OVERDOSE: INDIVIDUALS WITH AND WITHOUT A HISTORY OF PRIOR SUICIDE ATTEMPTS

Lead Author: Mark Sinyor, M.D., M.Sc.
Co-Author(s): Ayal Schaffer, MD, FRCPC

SUMMARY:

Background: Suicide is a complex phenomenon and there are likely many paths leading to suicide death. One of the challenges of suicide prevention efforts is to identify subpopulations with distinct features that may be amenable to intervention. We hypothesized that some suicide deaths may be more impulsive where others involve more planning and that having a history of previous suicide attempts may serve as a clinically useful proxy for impulsive suicide deaths.

Methods: Data on all suicides by overdose in the city of Toronto from 1998-2009 were collected from the Office of the Chief Coroner of Ontario. Chart reviews were performed to determine demographic, psychiatric, medical and suicide-specific details for each person who died. Chi-squared and t-tests were used to compare categorical and continuous variables respectively between those people with and without

a recorded history of a suicide attempt.

Results: 522 people died from suicide by overdose in Toronto from 1998-2009. Of these people, 239 (46%) had a history of a suicide attempt. Those with a history of suicide attempts were more likely to also have a history of depression (79% vs. 51%, $p<0.01$), bipolar disorder (14% vs. 8%, $p=0.02$), schizophrenia (9.2% vs. 3.5%, $p<0.01$) and substance abuse (33% vs. 22%, $p<0.01$). Those without a history of suicide attempts were older (mean age: 53 vs. 47, $p<0.001$) and more likely to leave a suicide note (45% vs. 32%, $p<0.01$). They were more likely to have complained recently about a medical stressor (23% vs. 6%, $p<0.001$) and they were more likely to be suffering from physical pain (21% vs. 11%, $p<0.01$), musculoskeletal conditions (11% vs. 5%, $p=0.01$) and cancer (8.8% vs. 2.1%, $p<0.01$). There were no differences between the groups in marital status or in rates of cardiac disease, diabetes or stroke.

Conclusions: More than half of those people who die from suicide by overdose have no prior history of attempts and there are meaningful differences between these two groups. Those with a history of suicide attempts are younger and have higher rates of mental illness. We speculate that their deaths may have been more impulsive and efforts in this group may need to focus on strengthening coping strategies and limiting access to lethal means. Those without a history of attempts are older, more likely to leave a note and to suffer from medical conditions which are causing them physical and psychological pain. We speculate that this may represent a group who die from suicide in a more deliberate way. Greater efforts may be needed on the part of primary care physicians, pain specialists and oncologists to detect these patients and seek treatment for them.

NR4-15
DOES ADHERENCE TO ANTIDEPRESSANT MEDICATION PRODUCE ADEQUATE SYMPTOM RELIEF IN ANTENATAL WOMEN? A PROSPECTIVE STUDY.

Lead Author: Deirdre Ryan
Co-Author(s): Shaila Misri, M.D., Andrea Blair Eng, B.Sc., Jasmin Abizadeh, B.A., Gillian Albert, B.Sc., Diana Carter, M.D.

SUMMARY:

OBJECTIVE: Women who adhere to pharmacotherapy in pregnancy may still be at risk for undertreatment, thus exposing themselves and their fetus to the compounded effects of mental illness and antidepressant medication. Clinical observation demonstrates that although motivated to accept treatment and adhere to antidepressant medication, pregnant women may not be compliant with their physician's advice regarding the therapeutic dose of the prescribed medication. They may continue to experience mild symptoms of mood or anxiety disorders.

METHODS: 59 pregnant women (30 adherers, 29 decliners of antidepressant medication) were followed at 18, 22, 26, 30, and 34 weeks. Mood and anxiety scores were recorded with Hamilton Depression (HAM-D) and Anxiety (HAM-A) scales. Illness insight and medication compliance were measured by the Mood Disorders Insight Scale and Antidepressant Compliance Questionnaire, respectively. Dosages of antidepressant medication were noted in study charts at each visit.

RESULTS: 50 women (30 adherers, 20 decliners) completed all study visits. Adherers and decliners did not significantly differ in their mean age, years of education, marital status, household income ($p<0.25$). Women who adhered had better insight into their illness [$F(3, 41)=7.43$, $p<0.001$] and better attitudes about taking antidepressants [$F(4,34)=5.68$, $p<0.005$] compared to decliners. Qualitative analysis revealed that adherers wanted a sense of control, could not function without medication and desired to be mentally well for their child. Decliners worried about their fetus being exposed to medications, did not believe they needed antidepressants and wanted to avoid negative side effects. With regards to HAM-A scores, paired sample t-tests found no significant differences in adherers' scores at every visit from week 22 to 34, with a mean of 16.4 and 16.1, respectively. Similarly, adherers' mean HAM-D scores did not significantly change between 22 and 30 weeks, with a mean of 15.6 and 14.9, respectively. A significant decline was observed in HAM-D scores from week 30 to 34, with a mean of 16.5 versus 12.7, respectively; however, the scores reflected that women were still suffering from mild depressive illness. From 22 to 34 weeks, mean dosages of citalopram prescribed ranged from 32.5 to 42.5mg/day; sertraline ranged from 84.4 to 100mg/day; and venlafaxine ranged from 137.1 to 208.6mg/day. The mean dosage of fluoxetine remained stable at 40 mg/day. Standardization of dosages with z-scores will be reported to allow for accurate comparisons between different antidepressants.

CONCLUSION: Adherence to medication, even when coupled with motivation, does not always correspond to a complete remission of symptoms if the dosage is inadequate. Pregnant patients' perception of an adequate therapeutic dose frequently differs from that of her healthcare provider due to fear of increased exposure, which may contribute to undertreatment.

NR4-16
EFFECT OF POSTTRAUMATIC STRESS DISORDER ON SLEEP ARCHITECTURE IN PATIENTS WITH OBSTRUCTIVE SLEEP APNEA.

Lead Author: Edwin Simon, M.D.
Co-Author(s): Pinal Modi M.D., Hasnain Bawaadam M.D., Harpreet Sidhu, Amin Nadeem M.D., Asma Asif M.D., Irfan Waheed M.D., Adnan Khan M.D., Rashid Nadeem M.D.

SUMMARY:

OBJECTIVE:
Both Obstructive sleep apnea (OSA) and Posttraumatic stress disorder (PTSD) are conditions individually associated with sleep disruption and sleep architectural abnormalities. Comorbid PTSD in OSA patients adversely affect treatment

of OSA as reported by Hurwitz T et al. Recent studies have established the association between PTSD and OSA in terms of higher co-prevalence. However, the effects of PTSD on sleep architecture and sleep characteristics in OSA patients need to be further evaluated. Therefore we conducted a case control study.

METHODS:
A retrospective chart review of all veterans diagnosed with OSA in past 3 years by polysomnography (PSG) studies was conducted. Individuals with OSA and PTSD were assigned to cases (OSA with PTSD, n=63) and similar number of consecutive charts selected as controls (OSA without PTSD, n=63). The demographic variables (age, gender), data from PSG studies; total sleep time (TST), sleep efficiency, Apnea-Hypopnea index (AHI), REM.AHI, sleep architecture (Percent of time spent in Stage I, Stage II, Stage III, Stage IV and REM sleep), Arousal Index, sleep and REM Onset, Periodic Limb Movement (PLM) Index (PLMI) and Arousal Index (PLMAI) registered. Documented medical diagnosis affecting sleep; gastro-esophageal reflux (GERD), benign prostatic hypertrophy (BPH), asthma and medications affecting random eye movement (REM) sleep were extracted from medical records. Linear regression analysis was performed to determine if there was a significant difference between the OSA with PTSD and OSA without PTSD groups for each of the sleep characteristics.

RESULTS:
There were no statistically significant difference between the two groups (OSA with PTSD and OSA without PTSD) for total sleep time (288.6±63.03 vs. 300±50.61, minutes p=0.26), sleep efficiency (77.53 ±26.31 vs. 78.36 ±12.26, % p=0.74), and OSA severity, as measured by AHI (28.63±15.79 vs. 25.94±19.73 p=0.40). Also no difference was noted for sleep architecture (% of time spent in stage I, stage II, or stage III/IV sleep), the arousal index (18.1±14.2 vs. 16.9±13.6, per hour p=0.62) and sleep onset, REM, PLMD and PLMAI (p>0.05). But the OSA with PTSD group had less REM sleep as a percentage of TST (11.49 ±7.83 vs. 15.03±7.52, % p=0.01).

CONCLUSION:
Based on polysomnographic data no significant difference was observed in the sleep characteristics, OSA severity, arousal index and sleep architecture between the groups studied(OSA with and without PTSD) except that in OSA with PTSD group, less REM sleep was noted as a percentage of TST.

NR4-17
EFFECTIVENESS OF A PERINATAL SUPPORT GROUP IN A MILITARY POPULATION

Lead Author: Ashley L. Clark, M.D.
Co-Author(s): Nicole Champagne, LCSW

SUMMARY:
OBJECTIVE: Although pregnancy has typically been considered a time of emotional well-being, perinatal mood and anxiety disorders (PMADs) are often the most underdiagnosed and undertreated complication of childbirth, especially within the military population. Research has shown a relationship between spousal deployment and maternal depression as well as a higher rate of depression in perinatal active duty (AD) women compared to rates in nonmilitary populations. Psychosocial perinatal support programs have been promoted to improve maternal mental health, but there is little known about the effects of such a support group in the military population. We sought to establish a perinatal support group in order to provide support for military mothers during this difficult and critical time.
METHOD: A retrospective record review was conducted among patients at Naval Medical Center San Diego who participated in the Perinatal Support Group. The support group was established and co-facilitated by a psychiatrist and Ob/Gyn LCSW. Data were collected from the initiation of the group on Feb. 2, 2012 through Nov. 20, 2012. The group was open to all AD and dependent spouses who were perinatal (pregnant or up to one year postpartum) and struggling emotionally. Most were referred by their mental health or Ob/Gyn providers. The group met weekly and the Edinburgh Postnatal Depression Scale (EPDS) was completed by each patient at every visit.
RESULTS: Data were gathered from 41 unique patients who attended the group. The sample consisted of perinatal females who were either AD (n=15, 36.6%) or dependent spouses (n=26, 63.4%). The participants attended sessions ranging from 1 to 10 sessions with a mean attendance of 2.51 sessions (SD= 2.19). From this data, a smaller sample was reviewed for clinical effectiveness. Inclusion criteria during this record review included having an initial EPDS score ? 10 which indicated risk of clinical depression, participation in at least 2 group sessions, and a time frame of at least 14 days from pretest to posttest. For this sample (n=14) there was a mean pretest EPDS score of 17.1 (SD = 3.92) and mean posttest EPDS score of 12.0 (SD = 6.18). The mean improvement was 5.14 points with a mean time of 47 days (SD = 39.16). These results were statistically significant with a p value of 0.012.
CONCLUSION: This retrospective case review examined the clinical effectiveness of a perinatal support group in the military population for both AD and dependent spouses. There are unique stressors in this population that likely contribute to the rates of perinatal mood and anxiety disorders including the stress of military life, lack of perceived support, deployments, and social isolation. With those that were able to return on a regular basis, the posttest scores show a statistically significant improvement in their depressive symptoms which suggest tha there is benefit to suuport groups for PMADs in a military population.

NR4-18
EMOTIONAL MEMORY IN PREGNANT WOMEN AT RISK FOR POSTPARTUM DEPRESSION

Lead Author: Marissa Williams, B.A.
Co-Author(s): Ms. Lauren Cudney, BSc, MSc candidate, Neuroscience, McMaster University, Hamilton, ON
Ms. Queenie Wong, BA

Dr. Margaret McKinnon, PhD, C. Psych, Academic Head of Research, Mood Disorders Division, St. Joseph's Healthcare Hamilton; Assistant Professor, Department of Psychiatry and Behavioural Neurosciences, McMaster University, Hamilton, ON
Dr. Claudio N. Soares, MD, PhD, FRCPC
Dr. Meir Steiner, MD, PhD, FRCPC, Professor Emeritus, Psychiatry & Behavioural Neurosciences and Obstetrics & Gynecology; Founding Director, Women's Health Concerns Clinic, St Joseph's Healthcare Hamilton, Hamilton, ON; Professor, Institute of Medical Sciences, University of Toronto, ON
Dr. Benicio N. Frey, MD, MSc, PhD, Clinical Director of The Women's Health Concerns Clinic, St. Joseph's Hamilton Healthcare; Assistant Professor, Department of Psychiatry and Behavioural Neurosciences, McMaster University; Psychiatrist, Mood Disorders Clinic & Women's Mental Health Concerns Clinic, St. Joseph's Healthcare, Hamilton, ON

SUMMARY:
Background: Postpartum depression (PPD) is a common and preventable disorder associated with a negative impact on mothers and their infants. PPD affects between 7-15% of women in the general population. A number of psychosocial and environmental risk factors for PPD have been identified including poor social support, low self-esteem, and low socioeconomic status. In addition, prior history of depression appears to be the strongest risk factor for PPD. It is well documented that individuals with a prior history of depression accurately recall more negative compared to positive content. This is the first study to investigate emotional memory in pregnant women with or without prior history of depression. The objective of the present study was to compare emotional memory between pregnant women with high risk for PPD (those with prior depressive episodes but currently euthymic) versus pregnant women with low risk (those with no lifetime depression). To control for potential pregnancy effects on emotional memory, non-pregnant women with previous depressive episodes and non-pregnant healthy women were also recruited. We predicted that pregnant and non-pregnant women with prior history of depression would exhibit enhanced memory for negative images compared to pregnant women and non-pregnant women with no previous major depressive episodes (MDEs).
Methods: A total of 60 participants between the ages of 18 - 40 (mean age: 27.2 ± 6.0yo) completed the study (10 pregnant women with prior depressive episodes, 25 pregnant women with no lifetime depression, 13 non-pregnant women with previous depressive episodes, and 12 non-pregnant healthy women). All groups were matched by age, intellectual capacity, educational level, gestational age, and number of MDEs. Participants took part in an emotional encoding task consisting of positive, negative, and neutral images taken from the International Affective Picture System (IAPS) where they were asked to rate these images based on perceived emotional intensity. Participants returned a week later for a surprise incidental memory recognition task where they were shown the original set of pictures in addition to foil pictures not previously shown and asked to indicate whether they remember seeing the picture previously.
Results: There were no differences between groups on potential confounders such as age, intellectual capacity, educational level, gestational age, and the number of MDEs (all $p>0.05$). The only difference shown in a one-way analysis of variance was that non-pregnant women with prior history of depression had more memory for negative events than pregnant women with no lifetime depression ($F3, 59=3.60$, $p=0.019$).
Conclusion: This finding suggests that emotional memory for negative events is probably not a strong predictive marker for risk for depression in pregnant women.

Keywords: Women's Mental Health, Depression, Pregnancy, Postpartum Depression, Emotional Memory, Cognition

NR4-19
EVALUATION OF THE RELATIONSHIP BETWEEN TOXOPLASMA GONDII INFECTION AND THE SUAS-S IN PATIENTS WITH NONFATAL, SUICIDAL SELF-DIRECTED VIOLENCE

Lead Author: Lily Jin, M.D.
Co-Author(s): Yuanfen Zhang MD, PhD, 2 Ashleigh A. Omorogbe 3 Lil Träskman-Bendz MD, PhD,4 Shorena Janelidze PhD 4,
Patricia Langenberg PhD 5, Ahmed Saleh PhD 6, 7 Niel Constantine PhD 7, Olaoluwa Okusaga MD ,2, Cecilie Bay-Richter, PhD 4, Lena Brundin MD, PhD 4, Teodor T. Postolache MD 1,8 , 9*

SUMMARY:
Background: Several studies have revealed an association between Toxoplasma gondii (T. gondii) IgG antibodies and nonfatal suicidal self-directed violence. More recently, a positive relationship has been demonstrated between T. gondii seropositivity and scores on the Suicide Assessment Scale, Self-rated version (SUAS-S). Specific SUAS-S items have not yet been analyzed in relationship to T. gondii.
Methods: This is a cross-sectional, observational study. 54 adults with a recent history of non-fatal suicidal self-directed violence and 30 adult control subjects were evaluated using SUAS-S. Psychiatric diagnoses were made according to DSM-IV criteria. T. gondii seropositivity and serointensity were measured with ELISA.The data were analyzed using two sample t-test and multivariate linear regression adjusted for age, sex and BMI.
Results: T. gondii positive individuals have a significantly higher SUAS-S score on tension and somatic concern items.
Conclusion: The current results suggest that a higher SUAS-S score on tension and somatic concerns could become items of particular prognostic and therapeutic attention in T. gondii positive individuals.

NR4-20
FREQUENT INSUFFICIENT SLEEP IN THE U.S. MILITARY: THE ROLE OF ACTIVE DUTY

Lead Author: Daniel Patrick Chapman, M.Sc., Ph.D.

Co-Author(s): Yong Liu, Lela R. McKnight-Eily, Janet B. Croft, Wayne H. Giles

SUMMARY:
Objective: Sleep disturbance has recently been reported to be a more robust predictor of suicidal ideation than depression among young adults in the military. We assessed the relationship between active duty status and frequent insufficient sleep (FIS, ?14 days/past 30 days in which the respondent reports not getting enough rest or sleep) in a large population-based sample. Research design and methods: Participants were respondents to the 2009 and 2010 administrations of the Behavioral Risk Factor Surveillance System, a telephone household survey of U.S. noninstitutionalized adults. There were 838,063 respondents (317,811 men and 520,252 women) who answered a question indicating whether or not they had ever served in the U.S. military. We categorized 5,869 (1.1%) respondents as having served active duty in the past 12 months (recent active duty), 106,033 (10.1%) as having served active duty in the past but not during the preceding 12 months (past active duty), and 725,161 (88.8%) as not having served active duty (no active duty). Multivariate logistic regression models were analyzed to examine the role of active duty service in FIS after adjustment for age, sex, race/ethnicity, education, employment, marital status, binge drinking, smoking status, obesity, leisure-time physical inactivity, and frequent mental distress (FMD), defined as the respondent reporting that for ?14 days/past 30 days their mental health was not good. Results: There were 1.8% (n=758) of men and 0.4% (n=260) of women who reported recent active duty. Respondents reporting recent active duty were more likely to be non-Hispanic black or Hispanic, to have >high school education, to be employed, to be binge drinkers, current smokers, to be less likely to be obese, to have FMD, or to report leisure-time inactivity than those reporting no active duty (p ?0.05).. Among men, the age-adjusted prevalence (95% CI) of FIS was 27.2% (24.8-29.6) for those with recent active duty, 27.3% (26.5-28.0) among those with past active duty, and 24.5% (24.1-24.8) for respondents with no active duty. Among women, the age-adjusted prevalence of FIS was 33.8% (29.7-38.3) among those reporting recent active duty, 33.8% (31.8-35.8) among those with past active duty and 29.4% (29.1-29.6) for those with no active duty. After adjustment for all covariates including sex, both recent active duty respondents (prevalence ratio [PR] =1.12; 95% CI=1.05-1.21) and past active duty respondents (PR=1.11; 95% CI=1.08-1.14) were significantly more likely to report FIS than those with no active duty. Conclusions: Our findings suggest that respondents who participated in recent active duty or past active duty are at increased risk for FIS relative to other respondents. Our results suggest that assessment of sleep sufficiency in this population appears particularly warranted given its association with numerous physical and mental health outcomes including suicide.

NR4-21
HIGH PREVALENCE OF PSYCHIATRIC COMORBIDITY IN SWEDISH YOUNG ADULTS (16-25 YEARS) SEEKING TREATMENT FOR OBESITY

Lead Author: Helena Dreber, M.D.
Co-Author(s): Erik Hemmingsson, PhD
Signy Reynisdottir, MD, PhD

SUMMARY:
Introduction:
An increasing amount of evidence suggests a link between obesity and psychiatric illness. Obesity treatment is however generally administered in primary care or in specialized medical obesity units with focus on prevention of cardiovascular disease and physical disability, whereas prevalence and treatment effects of psychiatric comorbidities are less well understood. Compliance with treatment programs is generally poor in late adolescence and early adulthood (16-25 y), which may be due to psychiatric comorbidity. We aimed to clarify the proportion of patients with known or suspected psychiatric comorbidity among young adults at a specialist treatment facility for obesity.

Method:
All consecutive patients enrolled in treatment between 2007-2012 and who gave informed consent to participate were examined with anthropometrics, blood pressure and blood samples for cardiovascular risk factors. Known diagnoses of somatic or psychiatric disease were retrieved from charts and through interviews and questionnaires regarding mental and physical health.

Results:
A total of 314 patients, 103 male and 211 female were included. Mean age was 19.3 years (range 16-25 y) and mean BMI was 39.2 kg/m2 (range 27.1-68.0). Three patients (1.0 %) had a diagnosis of hypertension, two (0.6 %) had diabetes mellitus type 2 and two (0.6 %) had obstructive sleep apnea. Ten percent of the female patients had polycystic ovary syndrome. In contrast 75 (23.8 %) of patients had a known psychiatric diagnosis. . The most common diagnoses groups were affective disorders and ADD/ADHD: main diagnosis in 6% of patients each, followed by anxiety disorders (4.2 %) and autism spectrum disorders (2.9 %). Eight (2.5 %) had mild mental disability. Only three patients (1.0%) had present or previous treatment with antipsychotic agents or lithium.

Conclusion
In contrary to our expectations, very few young adults had developed obesity-related metabolic illness, with the exception of hormonal dysregulation in females. Instead we found a surprisingly high prevalence of psychiatric comorbidity. However, only a small proportion of the previous weight gain could be ascribed to antipsychotic medication. The findings indicate that the possible presence of psychiatric illness needs to be addressed by obesity specialists. An increased awareness of weight change in psychiatric care – not only in patients on antipsychotics - could also give opportunities to prevent excessive weight gain at an early stage.

NR4-22
HIGH RATES OF PSYCHIATRIC COMORBIDITY IN NARCOLEPSY: FINDINGS FROM THE BURDEN

OF NARCOLEPSY DISEASE (BOND) STUDY OF 9,312 PATIENTS IN THE US

Lead Author: Jed Black, M.D.
Co-Author(s): Nancy L. Reaven, MA; Susan E. Funk, MBA; Karen McGaughey, PhD; Maurice Ohayon, MD, DSC, PhD; Christian Guilleminault, MD, Chad Ruoff, MD

SUMMARY:
OBJECTIVE: To evaluate psychiatric comorbidity patterns in narcolepsy patients in the United States.
BACKGROUND: While narcolepsy is known to be associated with medical comorbidity, the burden of concomitant psychiatric illness in this population has not been well characterized.
DESIGN/METHODS: Truven Health Analytics MarketScan® Research Databases were accessed to identify individuals >18 years of age with at least one diagnosis code for narcolepsy + cataplexy (ICD9 347.0, 347.00, 347.01, 347.1, 347.10 or 347.11) continuously insured between 2006 and 2010, and controls without narcolepsy matched 5:1 on age, gender, region, and payer. Extensive sub-analyses were conducted to confirm the validity of narcolepsy definitions.
Narcolepsy and control subjects were compared for frequency of psychiatric comorbid conditions, identified by the appearance of >1 psychiatric diagnosis code(s) mapped to a Clinical Classification System (CCS) level 2 category any time during the study period, and on specific subcategories. Patterns of psychiatric medication use were also evaluated.
RESULTS: The final population included 9,312 narcolepsy subjects and 46,559 controls (each group, average age of 46.1 years and 59% female). The CCS categories of anxiety disorders and mood disorders appeared at significantly higher frequencies in narcolepsy patients vs controls (Table 1).

Table 1. Psychiatric comorbidity frequency, control vs narcolepsy

CCS Level 2 Category	Control (N=46,559) n (%)	Narcolepsy (N=9312) n (%)	P-value*	OR (95% CI)
CCS 5.2, Anxiety disorders	5554 (11.9)	2333 (25.1)	<0.0001	2.5 (2.4, 2.7)
CCS 5.8, Mood disorders	6407 (13.8)	3525 (37.9)	<0.0001	4.0 (3.8, 4.2)

* Conditional Chi-square test; accounts for matching
In particular, high excess frequency was noted for the following specific ICD9 diagnoses in the narcolepsy cohort vs controls: 311 depressive disorders (24.6% vs 8.5%; 16% excess); 780.52 insomnia (16.4% vs 5.3%; 11% excess); and 300.00 anxiety state, nonspecified (17.1% vs 8.2%; 9% excess) (all p<0.0001). The percentage of patients with reported psychiatric medication usage during the study period was higher in the narcolepsy group vs controls in the following categories: SSRIs (36% vs 17%), anxiolytic benzodiazepines (34% vs 19%), non-benzodiazepine sedative-hypnotics (23% vs 10%), SNRIs (21% vs 6%), TCAs (13% vs 4%), miscellaneous sedative-hypnotics (10% vs 4%), and hypnotic benzodiazepines (6% vs 2%) (all p<0.0001).
CONCLUSIONS: Narcolepsy is associated with significant comorbid psychiatric illness burden and a higher rate of psychiatric medication usage compared with the non-narcolepsy population.

NR4-23
INFLUENCES OF PREMENSTRUAL SYNDROME AND OBSTETRIC FACTORS ON ANTENATAL DEPRESSION

Lead Author: Sook Haeng Joe

SUMMARY:
Objective: The benefits of early detection and treatment for antenatal depression have been emphasized since it can negatively affect both maternal and fetal health. Therefore, we investigated the associations of premenstrual syndrome and obstetric factors with antenatal depression.
Methods: We conducted a cross-sectional study of pregnant women (n=1262) enrolled from the local division of a national community mental health center. All subjects completed self-report questionnaires that assessed depressive mood, premenstrual syndrome and obstetric factors. Data were analyzed by logistic regression analysis.
Results: Previous premenstrual syndrome increased the risk for antenatal depression by more than two-fold (OR=2.731, 95% CI=1.956-3.813). Among obstetrical factors, unplanned pregnancy (OR = 1.546, 95% CI = 1.164-2.053) and primiparity (OR = 1.682, 95% CI = 1.27–2.227) were also significantly associated with antenatal depression ($p < 0.05$). However, a history of abortion was not associated with antenatal depression, regardless of their type (i.e., natural or artificial abortion).
Conclusions: Premenstrual syndrome and obstetric factors are significantly associated with depression during pregnancy. Clinicians should pay more attention for pregnant women who have risk factors for antenatal depression and try to identify for pregnant wemen with depression.

NR4-24
INTEGRATING CARE FOR PTSD, DEPRESSION, AND SUBSTANCES OF ABUSE AT US ACUTE CARE MEDICAL TRAUMA CENTERS

Lead Author: Douglas Zatzick, M.D.
Co-Author(s): Douglas Zatzick, MD

SUMMARY:
Introduction: The American College of Surgeons maintains quality standards for the treatment of injured patients at United States trauma centers. These quality standards now include mandates for alcohol screening and brief intervention that derive directly from pragmatic randomized clinical trials. Few investigations, however, inform quality of care enhancements for other mental health and substance related comorbidities that are endemic among injured trauma center

patients.

Methods: Trauma program staff at all US level I and II trauma centers were contacted and asked to complete a survey regarding the characteristics and quality of service delivery for depression and associated suicidal ideation, posttraumatic stress disorder (PTSD), and drug use problems.

Results: 391 of 518 (75%) US level I and II trauma centers responded to the survey. Over 75% of trauma centers reported routinely screening for problematic drug use with either a laboratory test or screening questionnaire. Among those trauma centers reporting routine screening, on average 60% of injured trauma survivors were screened for drug use problems. Marked variability was observed across sites in the percentage of patients screened (Standard Deviation SD = 40%, Interquartile Range (IQR) = 79%). Approximately one third of trauma center sites conducting drug screening reported that a formal consult was routinely called for detected problematic drug use; 38% of these sites offered bedside brief interventions for drug screen positive patients. Approximately half of trauma centers routinely screened for suicidality; centers reporting screening on average screened 82% of injured trauma survivors (SD = 34, IQR = 10). Approximately 25% of trauma center sites reported routinely screening for depression. Those centers performing screening reported screening on average 69% of injured trauma survivors. Marked variability was observed in the percentage of patients screened (SD = 40%, IQR = 60%). Only 7.4% of trauma centers reported routinely screening for PTSD. Trauma centers reported screening on average 51% of injured trauma survivors for PTSD with marked variability in the number of patients screened (SD = 38%, IQR = 80%).

Conclusion: The investigation observed marked variability across US trauma centers in the percentage of patients screened and in the nature and extent of intervention delivery in screen positive patients with depression, suicidality, PTSD, and drug use problems. Given that this constellation of psychiatric conditions is endemic among injured trauma survivors treated at US trauma centers, future orchestrated investigative and policy efforts targeting integration could systematically evaluate screening and intervention procedures for this constellation of psychiatric problems.

NR4-25
LISDEXAMFETAMINE DIMESYLATE SAFETY AND EFFICACY ON BINGE EATING DAYS/EPISODES AND BEHAVIOR IN ADULTS WITH MODERATE TO SEVERE BINGE EATING DISORDER

Lead Author: Susan McElroy, M.D.
Co-Author(s): James Mitchell, Denise Wilfley, Maria Gasior, Celeste Ferreira-Cornwell, Scott Crow, Michael McKay, Jiannong Wang, James Hudson

SUMMARY:

Objectives: To examine the efficacy and safety of lisdexamfetamine dimesylate (LDX) in binge eating behavior in adults with moderate to severe binge eating disorder (BED).

Methods: Adults with BED enrolled in a multicenter, randomized, double-blind, forced-dose titration, 11-wk trial of placebo or LDX (30, 50, or 70mg/d). LDX was initiated at 30mg/d, titrated over 3 wk to assigned dose, and maintained 8 additional wk. Primary efficacy endpoint was change from baseline to wk 11 in log-transformed (binge days/wk +1). Secondary measures included binge episodes/wk, Binge Eating Scale (BES), and Three-Factor Eating Questionnaire (TFEQ). Safety assessments included treatment-emergent adverse events (TEAEs) and vital signs.

Results: 270 randomized participants were included in safety, and 266 (placebo, n=65; LDX: 30mg/d, n=68; 50mg/d, n=67; 70mg/d, n=66) in efficacy analyses. Baseline mean (SD) binge days/wk were 4.3 (1.35) for placebo; 4.6 (1.45), 4.6 (1.27), and 4.5 (1.26) for LDX 30, 50, and 70mg/d. Mean (SD) decrease in binge days/wk was -3.1 (2.09) for placebo; -3.6 (1.97), -4.2 (1.51), and -4.1 (1.55) for LDX 30, 50, and 70mg/d. Differences vs placebo in mean change log-transformed binge days/wk were significant for LDX 50 and 70mg/d (P<.001) but not 30mg/d (P=.35). Baseline mean (SD) binge episodes/wk were 5.2 (2.11) for placebo and 5.8 (3.00), 5.6 (2.71), and 5.5 (2.41) for LDX 30, 50, and 70mg/d. Mean (SD) decrease in binge episodes/wk was -3.9 (2.80) for placebo; -4.6 (3.24), -5.1 (2.98), and -5.0 (2.54), for LDX 30, 50, and 70mg/d. LDX-placebo differences for mean change log-transformed episodes/wk were significant for 50 and 70mg/d (P<.001) but not 30mg/d (P=.305). TFEQ subscale change score differences in LS mean (SE) vs placebo for LDX 30, 50, and 70mg/d were 2.3 (0.88), 1.9 (0.87), 2.3 (0.88) for cognitive restraint; -2.0 (0.77), -2.7 (0.77), and -3.8 (0.77) for disinhibition; and -2.1 (0.78), -2.9 (0.77), and -4.8 (0.77) for hunger (P?.034 for all). For BES, LDX-placebo LS mean (SE) differences in change scores were -3.7 (1.74), -5.2 (1.71), and -8.7 (1.73) for 30, 50, and 70mg/d LDX (P?.035). On placebo, 57.6% experienced TEAEs, none serious, and no discontinuations for TEAEs. For all LDX groups, 82.4% experienced TEAEs, 1.5% had serious TEAEs, and 2.9% were discontinued for TEAEs; one death was adjudged unrelated to LDX. Small mean increases in systolic blood pressure and pulse were observed with LDX at wk 11. Mean (SD) changes in body weight were -0.0 (6.70) lb for placebo; -7.3 (8.39), -10.9 (9.60), and -11.0 (8.62) lb for LDX 30, 50, and 70mg/d (post hoc: percent change significant for each dose vs placebo).

Conclusions: Adults with moderate to severe BED on 50 and 70mg/d LDX had significant reduction vs placebo in number of binge days and episodes/wk and improved binge eating behavior. LDX safety profile was consistent with known effects of LDX.

Clinical research was funded by Shire Development LLC.

NR4-26
MANAGING ACUTE SUICIDAL BEHAVIOR IN A FORWARD DEPLOYED LOCATION IN AFGHANISTAN

Lead Author: Jeffrey Hollingsworth, D.O.
Co-Author(s): Jessica Hollingsworth, MS-III

SUMMARY:
My poster will summarize a guest editorial that was submitted to "Military Medicine" entitled "Managing Acute Suicidal Behavior in a Forward Deployed Location in Afghanistan". It summarizes the author's experiences working with acutely suicidal service members in Afganistan, specifically detailing an innovative strategy that was developed during the author's recent deployment which allowed to successfully manage acute suicidality. There is little medical literature on this topic. The article discusses how this strategy was developed and why worked so well for the author's. The article is presented as model that could be copied across the Afghanistan theater, and be generalized into any combat theater. The poster will summarize this article.

NR4-28
OBSESSIVE-COMPULSIVE DISORDER AFTER TRAUMATIC BRAIN INJURY: TWO CASES

Lead Author: Mehmet Alper Cinar, M.D.
Co-Author(s): Mehmet AK
Oktay ALGIN

SUMMARY:
Introduction:
Traumatic brain injury may result psychiatric disorders. While, anxiety disorders after traumatic brain injury were reported frequently, few cases were reported with obsessive-compulsive disorder (OCD) after traumatic brain injury. Two cases with OCD after traumatic brain injury are presented here.
Methods:
Psychiatric, psychometric, neurocognitive, and radiological evaluations were performed. Neurocognitive performance evaluation included neurocognitive tests; Wisconsin card sorting (WCST), The Wechsler Memory Scale (WMS), and Stroop tests. Radiological evaluation included diffusion tensor imaging (DTI) and susceptibility weighted imaging (SWI) and 3D 3-Tesla imaging protocol.
Results:
Case A. was a thirty years old, male with obsessions and compulsions. His neurocognitive assessment revealed severe attention deficits. His radiological findings were evaluated as normal except minimal white matter haemorrhages. Case B. was twenty-seven years old male with obsessions and compulsions. His neurocognitive assessment also revealed attention deficits. Bilateral frontal encephalomalacia particularly in right lobes were detected on MRI images.
Conclusions:
Obsessive-compulsive disorder is rarely seen after traumatic brain injury. It was suggested that focal lesions in frontal-subcortical regions, as well as subtle and diffuse lesions in this region were associated with OCD symptoms after TBI. Detailed investigation of these cases may help us to improve our understanding in pathophysiology of obsessive-compulsive disorder.

NR4-29
OPIOID ANTAGONIST NALOXONE NASAL SPRAY TREATMENT FOR PATIENTS WITH BINGE EATING DISORDER (BED): A RANDOMIZED CONTROLLED STUDY

Lead Author: Hannu Alho, M.D., Ph.D.
Co-Author(s): Tuuli Lahti, Bjorn Appelberg, Juha Kettunen and David Sinclair

SUMMARY:
BED is one of the major causes of obesity and is the most common of all eating disorders with a significant cost to society and with 12 to 18 million people in the United States likely meeting the criteria.. It is greatly undertreated with no approved pharmacological therapies. This Phase II, randomized, double-blind, placebo-controlled, study assessed the efficacy, safety, and tolerability of intranasal naloxone in 127 adults who met DSM-IV-TR® criteria for a diagnosis of binge eating disorder. The study duration was 24-weeks. Patients were randomized to intranasal naloxone (2 mg before each binge, max daily 4 mg) or placebo nasal spray. The trial EudraCT registry # is 2010-019892-31, and the trial was registered at ClinicalTrials.gov. The two co-primary efficacy endpoints were the mean minutes spent binge eating and the mean scores on the standard Binge Eating Scale (BES). The study was sponsored by Lightlake Therapeutics Inc.
Overall, 81% of patients completed the entire six-month study with no statistically significant difference in dropout rates between the placebo and the treatment groups and without any Serious Adverse Events (SAE). Naloxone produced a significantly ($p=0.024$) greater reduction than placebo in time spent binge eating: a decrease of 125 minutes per week with naloxone compared to 84 minutes per week with placebo. In the patients taking naloxone, the BMI decreased significantly from week 12 to week 24 ($p=0.015$) and there was a statistically significant reduction in the percentage of body fat ($p=0.004$) while the placebo patients did not show significant changes on these measures. By the end of the study, the naloxone group also showed significant decreases in their reported desire to binge ($p<0.001$), in their time spent thinking about binge eating ($p<0.001$), and in their reported level of depression ($p=0.043$), though these effects were not significantly better than in the placebo group.
This 75.2% reduction in bingeing in the naloxone patients was achieved without their receiving any dietary advice to binge less; they were instructed to continue eating as they would normally. These findings indicate a new strategy for treating BED. Naloxone is not an appetite suppressant nor does it prevent the body from absorbing fat. Naloxone causes extinction of the binge eating behavior. Naloxone blocks the opioidergic reinforcement otherwise occurring when foods high in fat, salt, or sugar are consumed; and making a behavior when reinforcement is blocked causes extinction of the behavior. The patients binge less because they become less interested in binge eating.. As a nasal spray, naloxone acts within minutes selectively targeting the extinction of the harmful eating behavior. Naloxone exerts its effects over two hours, which is the typical duration of a binge, and is unlikely to extinguish other healthy behaviors, such as exercising, occurring at other times.

NR4-30
PARENTS' ATTACHMENT AND PEER ATTACHMENT INFLUENCE TO SUICIDE IDEATION IN ADOLESCENTS IN JUNIOR HIGH AND HIGH SCHOOL

Lead Author: Byoung-Jo Kim, N.P.
Co-Author(s): Tae-Hyung Kim, M.D., Seung-Hyun Oh, M.D.

SUMMARY:

Suicide is a leading cause of death for the adolescents in the Korea. Suicide and suicidal behavior are often preventable. Prevention and treatment efforts may focus on attachment to reduce the risk for depression and suicidal ideation. The purpose of this study was to develop the understanding of adolescents' perceptions of the role of attachment relationships in the process of suicidal ideation.

The aims of this study were 1) to examine the relationship between demographic data and attachment, suicidal ideation, 2) to investigate the relationship among parents' attachment, peer attachment, depression, anxiety, and suicidal ideation in the adolescents.

Methods: This school based on cross-sectional study enrolled 916 students (422 males, 494 females; 170 middle school students, 746 high school students) in Jeonbuk Province. The students were asked to complete the Inventory of Parent Attachment (IPA), the Inventory of Parent and Peer attachment (IPPA), the Children's Depression Inventory (CDI), the Beck Anxiety Inventory (BAI) and the Scale for suicide Ideation (SSI). According to AMOS20.0 & SPSS20.2, statistical analysis was performed for factor analysis and Structural Equation Modeling.

Results: The major findings of this study were as follows :

1. All the factors of parents' attachment and peer attachment had significantly high positive-correlation with the income of parents and students' school grade. Also, suicidal ideation had significantly negative-correlation with the income of pare nts[lower(M=8.86)>higher(M=6.77, p<.001)] and students' school grade[lower(M=7.41)>higher(M=5.68, p<.001)].
2. Parents' attachment had the high positive-correlation with peer attachment. While parents' attachment and peer attachment had the high negative-correlation with depression, anxiety and suicidal ideation.
3. To examine the power of prediction about the variable to suicidal ideation, data was analyzed by a stepwise regression analysis. Parent attachment (trust r=-.435, p<.001), depression(r=.659,p<.001), anxiety(r=.465, p<.001), significantly contributed to the prediction of suicidal ideation.
4. Parents' attachment had not only a direct effect on suicidal ideation but also an indirect effect with mediation by depression and anxiety on suicidal ideation. It was shown that the higher parents' and peer attachment, the lower depression and anxiety, after all suicidal ideation might also lower.

Conclusion: This study suggested that parent attachment, peer attachment, depression, anxiety had significant correlation among all the variables. Parent attachment and depression had shown that they had a crucial role in suicidal ideation of adolescents. Appropriate management of the relationship between parents and adolescents is needed to reduce suicidal ideation in the adolescents. I think that the ideal support system of the family and community for intensification of attachment bonding of adolescents will be needed.

NR4-31
PERCEPTIONS OF OBSESSIVE COMPULSIVE DISORDER AND THE IMPACT ON FUNCTIONAL IMPAIRMENT, TREATMENT COMPLIANCE AND RESPONSE

Lead Author: Michael Van Ameringen, M.D.
Co-Author(s): William Simspon, BSc, McMaster University
Beth Patterson, BScN, RN, BEd, McMaster University

SUMMARY:

OBJECTIVES: In cognitive models of obsessive compulsive disorder (OCD), a central role is ascribed to dysfunctional beliefs and maladaptive appraisals of intrusive thoughts in the onset and maintenance of the disorder. Studies of information processing in OCD have suggested this process is characterized by vigilance for personally threatening stimuli. Heightened obsessive beliefs, which occur in approximately half of OCD patients, have been associated with neurocognitive in?exibility. Little is currently known about how OCD patients view their disease and how these beliefs may impact disability and treatment. As part of a naturalistic cross-sectional study of OCD, sponsored by the International College for Obsessive Compulsive Spectrum, we collected data concerning patient's views of their OCD.

METHOD: Consecutive OCD patients (n=504), at various stages of treatment were evaluated in 9 international tertiary care anxiety disorders clinics. Patients completed a number of self-report measures, including the "Views of OCD" questionnaire, a readiness to change measure, the Sheehan Disability Scale (SDS) as well as a detailed clinical and structured interview, including the Yale-Brown Obsessive Compulsive Scale (YBOCS).

RESULTS: The mean age of participants was 38.1 years (± 12.9 years); 61.5% of the sample was female, and the mean Yale-Brown Obsessive Compulsive Scale score was 19.7 (± 6.5), indicating a moderate level of severity. The majority of the sample (? 73%) saw their OCD as permanent, having major consequences on their life, causing difficulties for those close to them and inducing fear and worry about the impact of this condition. However, 68% felt they had power to influence their OCD, 55% saw treatment as controlling their OCD, and 53% felt they had a good understanding of their condition. Negative perceptions were correlated with increased severity (YBOCS) and impairment (SDS), but were not related to treatment response. No associations were found for positive perceptions and disability, symptom severity or treatment response. Although 39-45% believed that use of cognitive or exposure techniques would help, only 18-28% were using these techniques regularly. Similarly, 75% believed that medication was helpful, however only 63% reported taking their medication daily. Compared to those who took their medication daily, those who took it sporadically had higher readiness to change scores (p=.012), lower SDS scores (p<.001), lower Clinical Global Impression -Severity Scores (p=.002)

(less severe) but no difference in YBOCS scores.
CONCLUSION: Negative beliefs about an individual's OCD were significantly correlated with greater functional impairment and symptom severity, but not with treatment response. No similar associations were found for positive perceptions. Surprisingly, a significant number of OCD patients are not using evidence-based treatments as prescribed.

NR4-32
POSTPARTUM DEPRESSION AND ANXIETY AMONG MOTHERS OF INFANTS IN THE NEONATAL INTENSIVE CARE UNIT

Lead Author: Susan Hatters-Friedman, M.D.
Co-Author(s): Amie Rebecca Ballard, MD, Susan Hatters Friedman, MD, and John Preston Shand.

SUMMARY:
Background: Postpartum depression (PPD) affects approximately 10–15% of women; mothers of infants admitted to the neonatal intensive care unit (NICU) are thought to be at elevated risk to develop PPD.

Objective: To measure the prevalence of PPD and general anxiety levels in mothers of infants in the NICU by validated self-reported screens and compare with self-reported measures of attachment.

Methods: 110 mothers of infants admitted to the NICU met inclusion criteria, of whom 102 completed the study. The mothers were assessed at least two weeks postpartum and while the infant remained hospitalized (mean date of interview was 33 days postpartum). Three inventories were administered: the Edinburgh postnatal depression scale (EPDS) to screen for depression, the state-trait anxiety inventory (STAI) to screen symptoms of anxiety.

Results: Symptoms of postpartum depression were manifested in 34% of mothers (EPDS > 10). State anxiety symptoms were demonstrated by 38% of mothers, reflective of current maternal anxiety level, and trait anxiety symptoms were seen in 34% of mothers, reflective of baseline anxiety level (STAI state/trait subscale ? 40).

Conclusion: The findings indicate that mothers of infants admitted to the NICU are at higher risk of depression and anxiety than mothers of term infants in the immediate postpartum period. We speculate that severity of illness in the infant contributes to greater prevalence of depression and anxiety of their mothers, which may adversely affect bonding.

NR4-33
PREDICTING POST-BARIATRIC SURGICAL OUTCOMES USING RECEIVER OPERATING CHARACTERISTIC (ROC) CURVE ANALYSES

Lead Author: Debra Safer, M.D.
Co-Author(s): Athena H. Robinson PhD, Sarah Adler PsyD, Helen S. Bowers MS, Zaina Arslan BA, Kristine Luce PhD

SUMMARY:
Background: A significant minority of bariatric surgery patients experience suboptimal weight loss post-surgery. Available research has identified poor outcomes after weight loss surgery with certain pre-and post-surgical variables. These include 1) pre-operative factors (e.g., Body Mass Index (BMI)); 2) post-operative adherence to dietary guidelines; 3) post-operative levels of physical activity; 4) post-operative attendance at surgical follow-up appointments; and 5) other post-operative factors (e.g., alcohol use, depression, support group attendance). Methods: In a large online self-report survey, post gastric bypass surgery participants (n=274) gave information with regard to a total of 85 pre- and post-surgical variables. Post-surgical outcome failure was defined as losing less than 50% of excess body weight. Associations among the pre- and post-surgical variables with surgical outcome failure were evaluated using receiver operating characteristic (ROC) curve analyses. Results: Participants who completed the survey were 51.1 (SD=8.4) years of age, 95.6% female, 88.7% white, and 5.8 (SD=3.1) years post-gastric bypass surgery. A total of 21.5% of those surveyed were classified as having suboptimal outcomes, having lost < 50% of their excess body weight The ROC analysis identified 4 variables as being significantly associated with post-surgical outcome failure. Two were related to post-operative dietary adherence, one was a pre-operative factor, and one was an 'other' factor. The highest post-surgery failure rate (72.4%) was among those with low global dietary adherence who also reported grazing (repeatedly eating small amounts) more than once a day. This failure rate was reduced by more than half (31.7%) when grazing was once daily or less. Failure rates were further reduced (14.8%) in this group when the highest lifetime pre-surgical BMI was less than 53.7 kg/m2. The lowest likelihood of surgical failure (7.4%) was in participants reporting higher dietary adherence and lower grazing frequencies. Failure rates were 9 times higher (56.3%) among those with moderate dietary adherence who did not attend a bariatric support group compared to those who did (6.7%). No variables in the exercise or surgical clinic follow-up domains were identified as significant by the ROC, nor were the number of years post surgery. Conclusions: Low post-surgical global dietary adherence, high frequencies of grazing, higher lifetime pre-surgical BMI, and failure to attend post-surgical bariatric support groups contributed to rates of post-surgical outcome failure. Systematic inquiry into such signals may inform post-bariatric interventions and prospective outcome study designs.

NR4-34
PREDICTION OF FUTURE SUICIDE ATTEMPTS IN PSYCHIATRIC INPATIENTS: VALIDATION OF THE SUICIDE TRIGGER SCALE – VERSION 3

Lead Author: Jessica Briggs, B.A.
Co-Author(s): Zimri Yaseen, M.D.
Irina Kopeykina, B.A.
Irina Kogan, M.D.
Igor Korostyshevsky, M.D.
Igor Galynker, M.D., Ph.D.

SUMMARY:
Objective: Current research has studied and defined the motivational and risk factors of suicidal ideation and attempt and has developed and validated psychometric scales measuring these factors. However, no scale has thus far achieved predictive validity for future suicide attempts. The Suicide Trigger Scale (STS) measures the presence of a 'suicide trigger state', in which the risk of imminent suicide attempt is elevated. This study examines the STS as a possible predictive measure, and attempts to establish predictive validity for subsequent suicide attempts.

Methods: The STS-3 (42 items) was administered to 174 adult psychiatric inpatients admitted to Beth Israel Medical Center and St. Luke's-Roosevelt Hospital Center for suicidal ideation or suicide attempt. The measure was given as a part of a semi-structured interview conducted within 48 hours of the patient's admittance to the inpatient unit. The interview included clinical and demographic data and the Columbia Suicide Severity Rating Scale (CSSRS), as well as additional psychometric scales, such as the Beck Scale for Suicidal Ideation (BSS). Follow up interviews were conducted two months following the initial interview, and hospital records were consulted to determine presence or absence of subsequent suicide attempt(s). A Receiver Operating Characteristic (ROC) Analysis was used to determine the ability of a transform of the baseline STS-3 score to discriminate between subjects who went on to attempt suicide after discharge and those who did not. Baseline STS-3 scores were transformed by taking the absolute value of the difference between each score and the median score (50).

Results: The ROC Analysis found that the STS-3 has sensitivity and specificity values that were significantly higher than chance. Suicide attempt(s) after discharge significantly associated with higher values of the STS Linear Transformed Predictor (AUC = .719). At the optimal cutoff score of 22, the STS-3 had sensitivity of 61.5% and specificity of 78.9% in predicting suicide attempt after discharge. Additionally, even when the predictive value of significant suicide attempt at baseline is taken into account (AOR = 6.857, p = .012), transformed STS-3 score still contributes to prediction of future suicide attempts (AOR = 9.623, p = .014).

Conclusion: A linear transform of baseline score on the STS-3 has been proven to successfully discriminate between subjects who attempted suicide after discharge and those who did not, when a transformed score of 22 is used as the cutoff. When transformed STS-3 score is combined with significant suicide attempt at baseline, the scale contributes to prediction of future attempts. The STS-3 shows significant predictive validity for future suicide attempts.

NR4-5
PREVALENCE AND RISK FACTORS OF POST-TRAUMATIC STRESS DISORDER AFTER OCCUPATIONAL ACCIDENTS OF MIGRANT WORKERS IN BUSAN GYUNGNAM PROVINCE

Lead Author: Bogeum Kong
Co-Author(s): Sung-tae Kim, Sung-hun Kim, Chang-jin Moon, Seung-hwan Lee,
Bo-hyun Jung, Sang-min Choi, Moon-jung Hwang

SUMMARY:
OBJECTIVES : The purpose of this research is to investigate the prevalence and the risk factors of posttraumatic stress disorder (PTSD) caused by occupational accidents in migrant workers. And then we help their physical and mental health recovery and the prevention of PTSD after occupational accidents.
METHODS :This study enrolled 36 eligible patients after occupational accidents visiting the clinics for migrant workers in Busan and Gyungnam province. We diagnosed PTSD with the Clinician-Administered PTSD Scale. We investigated the risk factors after comparison of PTSD with non-PTSD.
RESULTS : The prevalence of PTSD in the subjects was 33.3% (12/36) and chronic PTSD (>6months) was 8 of them. Compared PTSD (n=12) with non-PTSD (n=24), IES scores related with PTSD was significantly higher (p<0.00). The PTSD group had significantly higher risk factors than those of non-PTSD, including: 1) pretraumatic factors: working duration(p=0.031), education(p=0.035), income in home country(p=0.030), 2) traumatic exposure-related factors : duration of finding after trauma(p=0.038), 3) post-traumatic factors : somatic symptoms(p=0.026), duration of hospitalization(p=0.035), social support(p=0.035).
CONCLUSION: This study shows PTSD developed after occupational accidents among the migrant workers in Busan and Gyungnam province. The PTSD group of them had higher risk factors significantly.

NR4-36
PSYCHOLOGICAL THERAPY IN THE MILITARY ENVIRONMENT: A PROGRAM OF MULTIMODAL THERAPY FOR SOLDIERS AND DEPENDENTS

Lead Author: Michael Wise, M.B.B.S., M.Sc.
Co-Author(s): Mrs I A Wise FBPAS FIPA MIPA MBCP

SUMMARY:
The families of soldiers experience significant stress when there loved ones are deployed to combat areas. The psychological and social stresses lead to significant disruption in the emotional well-being and performance of some of the solders dependants. This leads to attrition for 'non-combat' reasons with recall from the combat area.

In 2009/10 a program of group, mother and child, and individual therapies was organised for a Regiment about to be posted to Iraq, and tasked with mainly support duties. Predeployment preparation of the families was an important role with great care taken to use familiar language and reduce resistance to a novel and potentially threatening idea. Post-deployment regular visits occurred with facilities for child care, if requested, so that mothers had uninterrupted space for therapy.

Over the year of the program the Regiment had a reduced recall rate compared to its sister regiments; other regiments had

a 'non-cpmbat' recall rate of 6%, triple that of the intervention group. Analysis of the number of sessions provided to non-solddiers showed that the number needed to treat, ie reduce the recall of one soldier, was 6.

Several factors were thought to be important. The involvement and acceptance of the men on the ground, their immediate welfare officers, but as important was the visible support of the Commanding Officer and partner: providing a clear steer to the families that the program was accepted and valuable.

In 2012 following a major incident with substantial loss of life the Program was delivered to a front line unit deployed to Afghanistan. Initial unfamiliarity led to potential difficulties which were resolved as military staff recognised the professionalism and experience of the therapist. Therapy was now available for all personal and dependants.

Major differences were an expected mortality rate in excess of 5% a tour, as well as the large family size, often from several relationships as marriage duration was not lengthy. With this background, the levels of anxiety were extreme, and difficult to contain. Generating large families to maintain a relationship and keep the dread of death at bay is a maladaptive coping mechanism; as is intolerance of 'weakness', with resulting undesirable behaviours.

Over the Program the morbidity rate was triple the mortality rate, with limb loss being common. Soldiers presented as often as their families for therapy. In light of the massive morbidity and mortality rate, the ongoing risks, and different population characteristics, the reduction in recall rates for non-comnat reasons from less than 2% to less than 0.25% is remarkable. Thus the Program found that psychoanalytically informed treatment made a huge reduction in recall rates even where there was substantial mortality.

The Regimental Welfare Officer's report has strongly recommended that the Program is extended to all regiments in the Brigade that will deploy in 2013 and 2014.

NR4-37
QUALITY OF PARENTAL CARE IN CHILDHOOD AND SUICIDALITY IN ADULT PSYCHIATRIC INPATIENTS.

Lead Author: Zinoviy Gutkovich, M.D.
Co-Author(s): Irina Kopeykina
Zimri Yaseen, M.D.
Igor Galynker, M.D., Ph.D.

SUMMARY:

ABSTRACT: It is intuitive to expect that quality of care in childhood may be associated with later suicidality. However literature is scarce. Such inverse correlation has been demonstrated for several special populations: patients with eating disorders, patients with addiction, and adolescent inpatients. It is not clear if those results are generalizable to adults with different psychiatric disorders. We have conducted the study of Suicide Trigger Scale (STS), developed by our research team. The scale aims to capture emotional state immediately preceding suicidal attempt. As part of the study protocol we have collected data on quality of parental care ("Care" and "Overprotection") during first 16 years of life as measured by self report scale such as Parental Bonding Instrument (PBI). The authors of PBI provide cut-off score for "affectionless care" or care scores (CS): 27 for mothers and 24 for fathers and cut-off scores for overprotective care (OPS): 13.5 for mothers and 12.5 for fathers. Our sample included 180 adult inpatients admitted for suicidal ideation or suicidal attempt, among them 42.9 % male; mean age 37.8; 44.6 % Caucasian; 66.2 % never married. The mean PBI care score (CS) in our sample was much below cut-off scores": 21.59 for mothers and 18.01 for fathers. The OPS scores means were abnormal as well: 15.82 for mothers and 14.9 for fathers, There was a very strong correlation between CS and OPS with significance .000 for both mothers and fathers separately (but not "cross-parent)." There was no correlation between PBI scores and STS scores probably due to very high homogeneity of this very sick sample. Further research is needed to understand better the nature of this association between poor rearing practices and suicidality and possible mediating factors.

NR4-38
REDUCING RESTRAINTS: A PATIENT SAFETY, STAFF DRIVEN INITIATIVE

Lead Author: Lisa A. Lacy, B.S.N., R.N.
Co-Author(s): Lisa Lacy, Denise Bodish, Maryrose Dorward, Colleen Green, and Jane Halpin

SUMMARY:

Purpose/Significance: Successfully reducing or preventing seclusion and restraint (S/R) requires leadership commitment, resource allocation, and new tools for staff to improve the patient experience. Substantial savings can result from effectively changing the organizational culture to reduce and prevent the use of S/R. This poster will detail successful S/R reduction efforts, led by a team of mental health nurses and supported by nursing leadership, in a 24 bed, acute adult behavioral health unit in an academic, community Magnet™ hospital.
Strategy/Implementation: Initially, staff focused their attention on early identification of triggers which tend to escalate patients into unsafe behavior. Patients are interviewed on admission and asked a variety of questions addressing aggression history, problem behaviors, triggers, warning signs, and interventions that help a patient regain control of their behavior. The information is placed on an easily accessible nursing Kardex so staff can intervene with sensory-based approaches should a crisis arise. A sensory cart is stocked with items such as classical music (sound), drawing/coloring books (sight), lavender, vanilla, and orange oil (smell), a stress ball, a weighted vest (touch), salty, sour, and sweet foods (taste). Engaging patients in emotional regulation through self-soothing and bringing the patient 'back to the moment' is the driving force behind the use of sensory modalities. A second effort to prevent S/R examined the current practice of responding

to a psychiatric emergency. Instead of physically reacting to a situation, a hands-off focus is now utilized. "Watch and negotiate, rather than touch," is the new motto. The unit has an internal response team as well as a comprehensive crisis management team. Other positive changes include a patient safety card, completed with the assistance of a nurse, which identifies a safety plan and helps patients recognize their need to take responsibility of their behavior and maintain their own safety. This wallet-sized card is easily referenced and used post discharge. Additionally, a dedicated individual whose sole task is to perform 15 minute checks and identify early signs of behavior changes was implemented. Scheduling a specific person to be visually present makes patients feel safer and significantly decreases the number of patient safety reports. This person is deemed the eyes and ears of the unit. Finally, use of primary nursing provides consistency with treatment and ultimately raises a patient's level of trust.
Conclusion: Exploration and implementation of innovative interventions can be done very cost-effectively while positively impacting the patient experience. All initiatives discussed herein decreased the use of S/R on this 24 bed, adult behavioral health unit. According to evidence-based literature, people recover more quickly and experience greater success in the community when violence is extracted from the treatment setting.

NR4-39
RESIDENTIAL TREATMENT FOR COMBAT STRESS: A COMPREHENSIVE APPROACH

Lead Author: Angela Smith, Ph.D.
Co-Author(s): Marc A. Cooper, M.D.
Neil E. Page, M.D.

SUMMARY:

PURPOSE: In discussions with patients over a two year period, Moncrief Army Community Hospital (MACH) identified critical shortcomings in programs where Soldiers were receiving intensive psychiatric care. Medical co-morbidities were minimally addressed and Soldiers did not like having to "start over" upon completing intensive treatment. The Combat Stress and Addictions Recovery Program (CSARP) was created to fill these gaps.
NATURE OF PROPOSED CHANGE DESCRIBING THE MODEL: Historically, inpatient psychiatric treatment at military treatment facilities has consisted solely of acute crisis stabilization with completely separate inpatient and outpatient treatment teams. The CSARP model incorporates outpatient therapists, who provide ongoing evidenced based treatment while the patient attends CSARP. Admitted patients are combat veterans who are in need of intensive treatment for combat stress and other unhealthy behaviors who pose no imminent safety risk. Patients receive CPT, physical therapy, pain management, financial, spiritual, nutritional and family counseling, and pharmacotherapy. The CSARP model also includes a "work therapy" program to proactively address problems the Soldiers will face upon return to their units. The CSARP model is innovative because it is the Army's first residential treatment program for post deployment issues incorporating evidence based treatments that patients continue after discharge without having to start over with new providers. In a recent Joint Commission survey, the inspector cited the CSARP model as a lead practice.
METHODS USED TO EVALUATE EFFECTIVENESS: Soldiers complete self-administered outcome measures upon admission and at discharge. The outcome measures used to examine the program's effectiveness include: The Satisfaction with Life Scale, Purpose in Life Test, Spiritual Attitude Inventory, Occupational Satisfaction Index (OSI-R), Leisure Boredom Scale, Lock Wallace Marital Adjustment Test, Post Traumatic Cognitions Inventory (PTCI), Beck Depression Inventory-II (BDI-II), Epworth Sleepiness Scale, PCL-M, Outcome Questionnaire (OQ-45), WHOQOL-BREF, Multidimensional Sexual Self Concept Questionnaire and the SF-36 Questionnaire. Predictive Analytics SoftWare, version 18 (PASW) was used to analyze the data. Several Paired Samples T Tests were conducted to compare the means of pre and post-test measures. Preliminary data on patients admitted since April 2011 demonstrate statistically significant findings on the PCL-M, $t(30)=4.43$, $p=.000$, the PTCI, $t(26)=2.91$, $p=.007$, and the BDI-II, $t(18)=5.18$, $p=.000$, indicating a significant decrease in reported symptoms of PTSD and depression.
IMPLICATIONS: The demand for effective treatment of post-deployment stress continues to grow as troops return home. Research studies support the utilization of evidence based, interdisciplinary residential programs. The CSARP model offers a comprehensive approach to PTSD and medical co-morbidities.

NR4-40
SPECTRAL ANALYSIS OF WHOLE-NIGHT POLYSOMNOGRAPHY IN ADULT PATIENTS WITH NARCOLEPSY/CATAPLEXY

Lead Author: Wan Seok Seo, M.D., Ph.D.
Co-Author(s): Jeong-kyu Sakong, M.D., Ph.D.
Sang Heon Lee, M.D.
Jin Young Jung, M.D.

SUMMARY:

Objective: To evaluate the detailed pathophysiology of narcoleptic patients' sleep, we analyzed a whole-night polysomograms of narcoleptic patients and normal controls.
Methods: Seven drug-naïve adult narcoleptic patients and their age-sex matched normal controls underwent whole-night polysomograms. All patients were met the criteria for narcolepsy in ICSD-II and multiple sleep latency tests (mean sleep latency ? 8 minutes and ?2 SOREMP). Exclusion criteria were as follow: co-morbid major psychiatric disorders such as schizophrenia spectrum disorders, major depressive disorder, bipolar spectrum disorders, and alcoholism, seizure disorder and/or neurological disorders, mental retardation, patients who took medications which influence sleep structures such as antidepressants, antipsychotics, antihistamines, benzodiazepines and hypnotics.
Results: REM sleep latency was significantly shorter than controls. Delta power in 1st NREM sleep was also significantly lower than control group. In contrast to delta power, theta powers in 1st and 2nd NREM sleep were significantly higher in narcoleptics than controls. In analysis of delta power ac-

cording to sleep progression, delta powers were significantly decreased by sleep progression in control group but none in narcoleptics.
Conclusion: This result indicates that narcoleptic patients have inefficient sleep because of inefficient delta power in early phase of NREM sleep. Brain abnormality which both produce delta activity and control circadian rhythm could be related to narcolepsy.

NR4-41
SUICIDALITY IN BODY DYSMORPHIC DISORDER

Lead Author: Katharine A. Phillips, M.D.
Co-Author(s): William Menard, Rhode Island Hospital; Ashley S. Hart, PhD, Rhode Island Hospital/Warren Alpert Medical School of Brown University

SUMMARY:
Background: Available data indicate that lifetime rates of suicidal ideation and suicide attempts are high among individuals with body dysmorphic disorder (BDD), a distressing or impairing preoccupation with nonexistent or slight defects in one's physical appearance. However, prior studies have not used standardized measures of lifetime suicidality. Furthermore, no data exist on suicidality during the past year or the probability of future suicidal ideation and attempts in BDD.

Method: 135 subjects (mean age = 41.4 ± 12.2, 67% female) with past (n=65) or current (n=75) BDD who participated in a BDD course of illness study completed the 14-item Suicide Behaviors Questionnaire (SBQ-14). Subjects were also administered the Yale-Brown Obsessive-Compulsive Scale Modified for BDD (BDD-YBOCS, which assessed current BDD severity) and the Beck Depression Inventory (BDI-II, which assessed current depressive symptom severity).

Results: Lifetime suicidal ideation was reported by 76% of the full sample and 80% of subjects with current BDD. Lifetime suicide attempts were reported by 23% of the full sample and 29% of subjects with current BDD. Among subjects with current BDD, 51% had thought about killing themselves in the past year. The proportion of subjects with current BDD who reported at least a chance that they would consider killing themselves in the next year was 29%; the proportion who reported at least a chance that they would consider killing themselves within their lifetime was 56%. Among those with current BDD, 17% reported at least a chance that they would attempt suicide in the next year; 36% reported at least a chance that they would attempt suicide in their lifetime. Only 36% did not report that their problems would be solved if they committed suicide. For the full sample, current BDD severity and current depression severity were significantly and positively correlated with SBQ-14 total score ($r=.35$, $p<.001$, and $r=.53$, $p<.001$, respectively). Age and gender were not significantly correlated with SBQ-14 total score.

Conclusions: Rates of lifetime suicidal ideation and suicide attempts were high and very similar to rates from prior studies. Greater BDD severity and depressive symptom severity were significantly associated with higher SBQ-14 scores. Individuals with current BDD appear to be at high risk for suicidal ideation and suicide attempts in the future and should be closely monitored by health care professionals. More research is needed on suicidality in BDD, including predictors, prevention, and treatment approaches.

NR4-42
SUICIDE IDEATION AND SUICIDE ATTEMPTS IN COLOMBIAN MEDICAL STUDENTS: PREVALENCE AND ASSOCIATED FACTORS

Lead Author: Alexander Pinzon, M.D.
Co-Author(s): Landinez C
Guerrero S
Pinzón J
Moreno K.

SUMMARY:
Introduction: The frequency of depression and suicidal behavior are more prevalent in health workers than in the general population. It is well known that medical training is a source of significant stress that would be related with emotional distress and academic failure. Some studies reported that physicians are prone to substance abuse, depression and suicide, but there is scare evidence of suicidal behaviors in the medical student population, especially in Latin America.

Materials and methods: We conducted a cross sectional analytical study to evaluate the lifetime prevalence of suicide ideation and suicide attempts in adult medical students of three medical schools in Bucaramanga (Colombia). We applied a self-report questionnaire to evaluate demographical variables, perception of academic performance, history of substance use and abuse, previous use of antidepressants and family history of depression. The Epidemiologic Studies of Depression (CES-D) Scale and the CAGE scale were used to define the presence of depressive symptomatology and problematic alcohol consumption respectively. Bivariate logistic regression models were used to identify potential associated factors.

Results: 963 medical students voluntary accepted to be included in the study. 57% (n=549) of the sample was female. The mean age was 20,3 years (DS=2,3 years). The lifetime prevalence of serious suicide ideation was 15,7%. The lifetime prevalence of at least one suicide intent was 5,1%. The variables associated with the history of suicide ideation in the logistic regression after controlling the effect of the gender variable, were the presence of depressive symptomatology (OR=6,9; CI95% 4,5-10,4), history of illegal substances use or abuse (OR=2,8; CI95% 1,6-4,8) and perception of poor academic performance in the last previous year (OR=2,2; CI95% 1,3-3,6). The variables associated with the history of at least one suicide intent in the logistic regression after controlling the effect of the gender variable, were presence of depressive symptomatology (OR=4,6; CI95% 2,4-8,9), history of illegal substances use or abuse (OR=4,2; CI95% 1,9-9,3), history of parents depression (OR=3,7; CI95% 1,9-7,3) and perception of poor academic performance in the last previous year (OR=2,5; CI95% 1,2-5,3).

Conclusion: The presence of suicidal behaviors is frequent in medical students. Medical schools should adopt screening procedures to facilitate the detection and early interventions of students with emotional distress and suicide risk.

NR4-43
SUPPORTING WOMEN EXPERIENCING A PERINATAL LOSS

Lead Author: Terri Kipnis, M.Sc., R.N.
Co-Author(s): Jasmin Abizadeh, B.A., Diana Carter, M.D.

SUMMARY:

Objective: Pregnancy loss is experienced by one in four women during her lifetime and commonly results due to miscarriage, intrauterine fetal death, abortion or death of a newborn. A range of emotional reactions can be elicited, including sadness, guilt, anger, blame. Parents need reassurance that their feelings are normal and psychological treatment may need to be sought only if symptoms are enduring, as they can have deleterious effects on the mental health of the mother, father and other children.

Methods: An explorative, qualitative study was undertaken to identify women's experiences following perinatal loss. Women met with a reproductive psychiatrist and a nurse practitioner as part of follow up care after their loss. Women were encouraged to articulate their experiences freely, which were recorded into their charts and later categorized into key themes. A literature review was conducted to examine the factors contributing to the development of a mental illness in some women following perinatal loss.

Results: Key themes that emerged of women's experiences after perinatal loss included: isolation, trivialization of loss, constant reminders, anniversaries, differences in the grieving process between a woman and her partner, guilt and self blame/doubt. Women who were studied possessed at least one of the risk factors discussed in the existing literature for receiving a mental health diagnosis following perinatal loss. These included: a prior history of psychiatric illness or recurrent losses, poor marital relationships, limited social support, poor self-worth, suicidal thoughts, and perceived responsibility for the loss. It is crucial to refer women who have experienced pregnancy loss to appropriate care providers early on in order to identify women at risk of developing psychiatric illness. Women who experience perinatal loss have been found to have greater levels of depression, anxiety, and somatization at six weeks and six months after the loss. This was reflected in the women who participated in this study. Subsequent pregnancies may involve high levels of anxiety and result in a protective/controlling but also allusive parenting style. It was important for the healthcare provider to understand that the duration of intense grief varies; therefore women should be evaluated on an ongoing basis throughout the first year of the postpartum period.

Conclusion: It is critical that women who have had a pregnancy loss are supported with care. There is a need for awareness of the psychiatric effects of perinatal loss among healthcare professionals. This will allow for effective screening of psychiatric disorders and also help to minimize the stigma of pregnancy loss which can have detrimental implications on the psychological well-being of these women.

NR4-44
THE BRAIN ACTIVITY USING PET WITH SUBLIMINAL STIMULATION IN BURN PTSD PATIENTS.

Lead Author: Boung Chul Lee, M.D.
Co-Author(s): J.E. Park Department of Psychiatry, Keyo Hospital, Uiwang, Korea
Y.K. Kang Department of Psychiatry, Hangang Sacred Heart Hospital, Seoul, Korea
Y.M. Han Department of Psychiatry, Hangang Sacred Heart Hospital, Seoul, Korea
I.G. Choi Department of Psychiatry, Kangnam Sacred Heart Hospital, Seoul, Korea

SUMMARY:

PTSD is one of the most severe complication in Burn injury. Subjects aged 18-60 years and with flame burns covering at least 15% but not more than 65% of the total body surface area (TBSA). Burn patients average CAPS score were 65.27±21.33. FDG PET/CT scans were done just after subliminal visual stimulation of burn related and neutral pictures. Stimulation trial began with a central fixation cross, appearing for 2 s. Shortly thereafter, 14 pictures of distracting and target stimuli were displayed randomly. During short presentation of neutral pictures, two cut of burn related aversive picture (burn wound or burning object) were inserted to cause subliminal arousal, in stress trial. . The PET data were analyzed using Statistical Parametric Mapping (SPM8) methods (Wellcome Trust Centre for NeuroImaging, institute of Neurology, University college London, United Kingdom) over Matlab Software version 7.1 (Mathworks, Inc.).Comparison between PTSD and normal controls, at resting state, two cerebral regions, the anterior cingulated cortex and the subgenual ventromedial prefrontal cortex, showed significant differences between both groups ($p < 0.035$). These two clusters represented a relative metabolic decrease in PTSD group compared to normal control group . T values of the clusters were more than 3.75. At activated state, two brain clusters represented significantly reduced metabolic activity compared to resting normal controls: the left parahippocampal gyrus and the subgenual prefrontal cortex ($p < 0.012$, $T > 3.56$). Metabolic decrease in the left parahippocampal gyrus was also noticed at resting state, but not significant ($p = 0.242$, $T = 4.01$). Comparison of PTSD and burn patient without PTSD group, PTSD group had significant metabolic increases in the left dorsomedial prefrontal cortex and the left precuneus. ($p < 0.021$, $T > 4.05$). In the case of voxel threshold value at 0.005, there were significant increased metabolic clusters in the right ventolateral prefrontal cortex, the right ventomedial prefrontal cortex and the right anterior cingulated cortex as well as the left dorsomedial prefrontal cortex and the precuneus . In burn control group, there were a significant metabolic decrease in the ventromedial

prefrontal cortex ($p = 0.022$, $T = 3.73$) and the left fusiform gyrus (voxel threshold = 0.005). Significant metabolic increases were in bilateral premotor cortexes and left auditary cortex ($p < 0.021$, $T > 3.46$) . We think these finding are induced by subliminal stimulation which are different from other studies, and such difference were reflected in our results.

NR4-45
THE DEMOGRAPHIC AND CLINICAL CHARACTERISTICS OF SUICIDE ATTEMPTERS IN KOREA.

Lead Author: Yu Jin Lee, M.D., Ph.D.
Co-Author(s): Seog Ju Kim2, In-Hee Cho1, Weonjeong Lim3, Seong Jin Cho1
1Department of Psychiatry, Gachon University, Incheon, Republic of Korea; 2Department of Medicine, Seoul National University College of Medicine, Seoul, Republic of Korea, 3Department of Psychiatry, College of Medicine, Ewha Womans University

SUMMARY:

Purpose: High suicide rate is a major problem in Korea. Suicide rate in South Korea is highest level among OECD countries. Previous studies reported that suicide attempt is likely to be repetitive. In current study, we aimed at assess demographic and clinical characteristics of suicide attempters who visited emergency room of a university hospital in Incheon, South Korea.
Methods: One hundred fifty one patients with the history of suicide attempt (male: 56, female: 95, 33.4±15.9 years, range 14-81) were enrolled for the present study. For all participants, semi-structured psychiatric interview was conducted by trained mental health professionals (social workers or nurses). Detailed history about suicidality was collected. All participants completed the questionnaire including Center for Epidemiologic Studies-Depression Scale, Scale for Suicidal Ideation, Barratt Impulsiveness Scale (BIS), State Trait Anger Expression Inventory in Korea (STAIX-K), World Health Organization of Life Assessment Instrument and Global Assessment of Functioning Scale.
Results: Based on semi-structured psychiatric interview, 126 (74.8%) patients were diagnosed as the mood disorder (major depressive disorder 80, bipolar I disorder 20, bipolar II disorder 6), 3 (2.0%) were diagnosed as schizophrenia-spectrum disorders, 1 (0.7%) was diagnosed as conduct disorder, 1 (0.7%) was diagnosed as adjustment disorder, 1 (0.7%) was diagnosed as ADHD and 14 (9.2%) were diagnosed as cluster B personality disorders (borderline personality disorders 10, histrionic personality disorders 3, narcissitic personality disorder 1). Proximal causes of current suicide attempt which patients reported were most commonly family discords (32.5%), diagnosed psychiatric illnesses (18.6%), financial difficulties/job loss (13.9%), social isolation/loneliness (10.6%), conflicts with lover (4%), troubles with interpersonal relationship (3.3%), academic problems/low scores in school (2.6%), occupation issues (0.7%) and miscellaneous (5.3%). Mean number of total suicide attempts was 3.3±1.5 (No.). Mean scores of CES-D, Beck-SSI, BIS, STAIX-K, WHOQOL-BREF and GAF were 37.8±12.4, 25.7±7.4, 69.9±16.2, 49.2±12.2, 57.1±13.7 and 32.7±16.3 respectively. 83.9% of patients showed higher score than cutoff in CES-D (?25). 90% of participants showed higher score than cutoff in Beck-SSI (?16).
Conclusion: Current results suggested that most common psychiatric illness in patients with current of suicide attempt were the mood disorder. Common proximal causes that attempters reported were discords in family, psychiatric disorders and financial issues. Suicide attempters in ER showed severe depressed mood, high impulsivity, high anxiety, poor quality of life and low GAF scores. The previous notion that suicide attempt have tendency to be repetitive was replicated in the present study. The majority of patients were depressed and showed significant level of suicide idea.

NR4-46
THE RELATIONSHIP BETWEEN SLEEP DURATION AND INFLAMMATORY MARKERS IN KOREAN ADOLESCENTS.

Lead Author: Yu Jin Lee, M.D., Ph.D.
Co-Author(s): Seog Ju Kim2, In-Hee Cho1, Weonjeong Lim3
1Department of Psychiatry, Gachon University, Incheon, Republic of Korea; 2Department of Medicine, Seoul National University College of Medicine, Seoul, Republic of Korea, 3Department of Psychiatry, College of Medicine, Ewha Womans University.

SUMMARY:

Introduction: Because sufficient sleep during adolescence is important for the development of psychosocial functioning, behavioral maturation, and cognition, inadequate sleep is a major health issue among Korean adolescents. Insufficient sleep has been known to cause an increase in inflammation/immune responses. Several previous studies have reported changes in cytokine levels in sleep loss or insomnia. Reported relating cytokines have been tumor necrosis factor-?, interleukin-6 or C-reactive protien. Increased level of interleukin-6 has been found in patients with primary insomnia. Current study aimed to assess the relation of sleep duration objectively measured to inflammatory markers and in Korean adolescents.
Methods: One hundred six high-school students (male: 26, female: 80, mean age 17.1±0.8) participated in the present study during the school term. Sleep variables were measured for 7 days with actigraph on their nondominant wrist (Mini-Mitter Co.). Plasma interleukin-6 (IL-6), interleukin-1? (IL-1?), tumor necrosis factor-? (TNF- ?), and leptin level were measured by Enzyme-linked immunosorbent assay (ELISA). Sociodemographic informations were collected and depressed mood was assessed by 21-item Beck Depression Inventory (BDI). Partial correlation analysis between plasma cytokine or leptin level and sleep duration with controlling for confounding variables including age, gender, body mass index (BMI) and BDI score was conducted. SPSS program version 17.0 was used for statistical analysis. Written informed consent was obtained from participants and their parents. The study protocol was approved by the institutional review board of Gachon University of Medicine and Science, Incheon, Republic of Korea.
Results: For all participants, mean total sleep time (TST) in weekday was 5.9±1.2 hours, and mean TST in weekend

was 8.7±1.8 hours. Mean time in bed (TIB) in weekday was 6.2±1.7 hours, and mean TIB in weekend was 8.7±1.7 hours. After controlling for age, gender, BMI and BDI score, plasma IL-6 level was positively correlated with TIB and TST in weekend ($r = 0.275$, $p = 0.018$; $r = 0.269$, $p = 0.021$, respectively). TST in weekday was inversely correlated with plasma leptin level ($r = -0.260$, $p = 0.025$). There were no significant relations of sleep variables to IL-1? or TNF-?.
Conclusion: Objectively measured sleep duration in Korean adolescents was shorter than other countries, especially during weekdays. For the compensation of insufficient sleep in weekdays, they showed longer sleep duration i.e. catch-up sleep during weekend. Regarding the association between inflammatory markers and sleep, current results suggested that insufficient sleep indicated by longer sleep duration (TIB and TST) during weekend could be associated with an increased inflammation response in adolescents. In addition, sleep duration during adolescence could be related to obesity.

NR4-47
THE PERSONAL CHARACTERISTICS OF THE PEOPLE WHO HAVE SUICIDE ATTEMPT AND PSYCHIATRIC COMORBITY

Lead Author: Mustafa Solmaz
Co-Author(s): Zerrin Binbay, Bagcilar Teaching and Research Hospital, Department Of Psychiatry, Istanbul, Turkey
Tuba Basoglu
Selim Sagir, Ba?cilar Teaching and Research Hospital, Department Of Psychiatry

SUMMARY:
Purpose: Suicide is a public health issue becoming increasingly important in recent years. It is thought/accepted that a lot of factors play a role in the emergence of suicidal behaviors that needs to be addressed under the area of preventive mental health. This study aims to understand the effects of personal characteristics, psychiatric disorders and sociodemographic factors on suicidal attempts and to access to the information in order to develop protective, preventive, and therapeutic approaches.

Materials and Method: In suicide group, there are fifty patients who consulted to the emergency department with suicide attempts and required psychiatric evaluation. In control group, there are fifty participants without any psychiatric disorders and suicide attempts. The eligible participants in both groups were evaluated according to DSM-IV criteria and Turkish temperament and character inventory (Turkish TCI).
Findings: The mean age of the participants/cases with suicidal attempts was 24.12 (SD= 8.8). 78% of the cases with suicidal attempts were women, 74% of them were single, 64% of them were not working at the time of the study, 70% of them had poor economic status, 60% of them were smokers, 24% of them with low educational levels had self-risk-taking behaviors, previously consulted to psychiatry, and were diagnosed with a psychiatric disorder, 12% of them had psychiatric consultation and were continuing to their psychiatric treatment previous to their suicidal attempt, 98% of them committed suicide taking over-dose medication.

The participants in suicide group were evaluated based on SCID-I, an inventory structured for the disorders at axis 1 of DSM-IV, 60% of the cases were diagnosed with major depressive disorder and 40% of them were suffering from a psychosocial distress at the time of their suicide attempt. Compared to the participants without a suicidal attempt (the control group), the participants with a suicidal attempt (the treatment group) had higher scores of “avoiding a harm” and lower scores of “persevere” in terms of temperament. Moreover, they had lower scores of “self management” and “tendency for cooperation” and higher scores of “self-transcendence” in terms of personal characteristics.

Results: The temperament and personal characteristics of the participants with a suicide attempt significantly differed from the temperament and personal characteristics of the participants without a suicide attempt. Determining the personal characteristics of the patients who committed suicide can be beneficial in terms of applying various treatment approaches. Improving social and economical conditions are found as important as the personal characteristics of the patients with suicide attempts. This indicates that there is a necessity for comprehensive and multi-disciplinary projects adopting protective and preventive approaches.

NR4-48
THE PREVALENCE OF SUPERFICIAL MYCOTIC INFECTIONS (ATHLETE’S FOOT) IN A LONG-TERM PSYCHIATRIC FACILITY: A PILOT STUDY

Lead Author: David Khalil, M.D.
Co-Author(s): Mary E Woesner MD, Andres R Schneeberger MD, Robert Snyder DPM, and J Daniel Kanofsky, MD, MPH

SUMMARY:
Based on several studies, there is a significant need to further identify co-morbid medical illness in psychiatric patients and customize treatments to them. The purpose of this study was to investigate the prevalence and progression of one particular cutaneous disease, tinea pedis, at a long-term psychiatric inpatient facility. Twenty six patients at our facility were studied for approximately eight weeks. Clinical exam and mycology culture were used to monitor for tinea pedis infection. At the start of the study, 85% of patients had clinical findings consistent with tinea pedis (scaling, erythema, and maceration) and 63% had a positive fungal culture. The patients then received standard of care treatment as per the hospital (usually medical and podiatry consult followed by topical antifungals for 14 days or more), with many patients participating in educational sessions regarding skin health, hygiene, and disease. After eight weeks, 89% of patients had a positive clinical exam and 84% had a positive culture. This is a high rate when compared to other populations (marathon runners 22%, homeless shelter 38%, and soldiers 61%) and the most resistant to treatment. We believe persistent poor foot hygiene and inadequate treatment compliance with the daily administration of antifungal creams are some of the reasons

for these disappointing results. Unique treatment strategies need to be employed with this specific population, particularly those patients with distressing pruritus or at risk for cellulitis. We discuss the staff-observed topical application of a single dose slow-release antifungal preparation and the utilization of copper oxide containing socks as possible treatment options.

NR4-49
THE EFFECT OF RESILIENCE ON POSTTRAUMATIC STRESS DISORDER SYMPTOMS AND COMORBID SYMPTOMS IN FIREFIGHTERS

Lead Author: Suk-Hoon Kang, M.D.
Co-Author(s): Moon Yong Chung, Department of Neuropsychiatry, Veterans Hospital Medical Center, Seoul, Korea
Ki Chung Paik, Department of Psychiatry, College of Medicine, Dankook University, Cheonan, Korea

SUMMARY:

Abstract
Objective? This study investigated the relationship between the resilience and posttraumatic stress symptoms, as well as comorbid symptoms in firefighters.

Methods?We collected 764 firefighters, who worked at six fire department stations in Gangwon-do. We investigated the impact of event scale-revised (IES-R), the life events checklists (LEC), Connor-Davidson resilience scale (CD-RISC), Beck depression inventory (BDI), state trait anxiety inventory (STAI) and alcohol use disorder identification test (AUDIT). Full PTSD groups, partial PTSD groups and non-PTSD groups, which were classified by IES-R scores, were compared in the LEC, CD-RISC, BDI, STAI and AUDIT,; multiple linear regression analyses were done for independent predictors of variables.

Results? Of the 764 firefighters, there were significant differences in LEC($p<0.001$), CD-RISC($p<0.001$), BDI($p<0.001$), and AUDIT($p=0.001$) among the full PTSD groups, partial PTSD groups and non-PTSD groups. However, STAI did not show significant difference among three groups. In multiple regression analysis, CD-RISC($\beta=-0.168$, $p<0.001$), LEC($\beta=0.211$, $p<0.001$) and AUDIT($\beta=0.115$, $p=0.001$) were significant predictors for IES-R.

Conclusion? The results of the present study suggested that resilience might be a protective factor in PTSD and comorbid symptoms of PTSD.

NR4-50
THE RELATIONSHIP BETWEEN SUICIDE ATTEMPTS AND STRESSFUL LIFE EVENTS IN THE SPANISH SAMPLE OF ADOLESCENTS OF THE WE-STAY PROJECT

Lead Author: Pilar Saiz
Co-Author(s): Patricia Burón
Susana Al-Halabí
Leticia García-Álvarez
Eva Díaz-Mesa
Marlén Garrido
José Luís Rancaño
Marta Casero
Gonzalo Galván
Paz García-Portilla
Pilar A. Sáiz
JULIO BOBES

SUMMARY:

Introduction: There is evidence suggesting that both psychological characteristics and stressful life events are contributory factors in deliberate self-harm among young people [1].
Aim: To examine the relationship between the existence of life events and suicide attempts (SA) in the Spanish sample of adolescents from the "Working in Europe to Stop Truancy among Youth" Project (WE-STAY) and examine the differences according to the gender.
Method: Sample: 1,409 pupils from 23 secondary schools sited in Asturias (Spain) [48.5 males; mean age (SD) = 15.16 (1.22)]. Instruments: (1) Questionnaire ad hoc about the existence of stressful life events during last year; (2) Questionnaires ad hoc about previous SA during last year and the whole life.
Results: 3.5% of the adolescents had previous SA, of which 2.1% was during the last year. Significant differences ($p=.036$) were found by gender (females had more SA during last year). Regarding to life events, 4.6% of the adolescents had not any stressful life event during the past year, while 55.4% had four or more of them. The most common life event was failed subjects in school (59.1%), followed by made new friends (58.2%) and got badly hurt or sick (32.6%). Significant differences were found by gender in the total number of life events ($p<.000$), females scoring higher. Likewise, females had more often the following events: a family member in trouble with OH ($p=.020$), lost a pet ($p=.032$), family member got very sick ($p<.000$), quit school ($p=.048$), hassling with parents ($p<.000$), having problems with body or appearance ($p<.000$), started a new school ($p=.024$), changed physical appearance ($p=.014$), hassling with brother or sister ($p=.001$), made new friends ($p=.010$). On the other hand, males had more often the following events: failed a subject in school ($p=.042$), physically attacked and hurt ($p=.014$). Regarding to the relation between SA and stressful life events, significant differences were found in the number of life events in those subjects who attempted to taking their life past year ($p<.000$). These adolescents have 12 or more stressful life events. The events associated with SA were: close friend died ($p=.001$), flunked a grade in school ($p=.001$), family member had trouble with alcohol ($p<.000$), lost a favourite pet ($p=.001$), broke up with a close girlfriend or boyfriend ($p<.000$), hassling with parents ($p<.000$), having problems with body or appearance ($p=.001$), started a new school ($p=.001$), started to date ($p=.002$), physically attacked and hurt ($p<.000$) and witnessed a person being killed/injured ($p<.000$).
Conclusions: We found that females had more stressful life events and more SA during last year. There is no single pat-

tern of self-harm among young people, but life events substantially increase risk.

References:
1. Madge N, Hawton K, McMahon EM, Corcoran P, De Leo D, de Wilde EJ, Fekete S, van Heeringen K, Ystgaard M, Arensman E. Eur. Child Adolesc. Psychiatry 2011; 20(10): 499-508.

NR4-51

TNF-ALPHA -308 G/A POLYMORPHISM IS ASSOCIATED WITH SUICIDE ATTEMPT IN MAJOR DEPRESSIVE DISORDER

Lead Author: Yong-Ku Kim, M.D., Ph.D.
Co-Author(s): Kyoung-Sae Na,2) Jung-A Hwang,1) Heon-Jeong Lee,3) Bun-Hee Lee,4), Sang-Woo Han, 2) Han-Yong Jung2)

1Department of Psychiatry, Korea University Ansan Hospital, Ansan, Republic of Korea
2Department of Psychiatry, Soonchunhyang University, Republic of Korea
3Department of Psychiatry, Korea University Anam Hospital, Republic of Korea
4Department of Psychiatry, KARF Hospital, the Korean Alcohol Research Foundation, Republic of Korea

SUMMARY:
Background: Despite a substantial role of cytokine network on depression and suicide, few studies investigated role of genetic polymorphism of pro- and anti-inflammatory cytokines for suicide in major depressive disorder (MDD). The aim of this study was to investigate whether tumor necrosis factor-alpha (TNF-alpha) -308G>A, interferon-gamma (IFN-gamma) +874A>T, and interleukin-10 (IL-10) -1082A>G are associated with increased risk for suicide attempt in MDD.
Methods: Among patients with MDD, 204 patients who attempted suicide and 97 control patients without suicide attempt were recruited. Chi square test was used to identify possible risk genotype or allele type for suicide. Subsequent multivariate logistic regression analysis was conducted to investigate influence of the risk genotype or allele type adjusted with other environmental and familial factors. Lethality of suicide attempt was also compared between genotype or allele types among suicidal patients with MDD.
Results: The GG genotype of TNF-alpha -308G>A polymorphism was found to significantly increase risk for suicide attempt (adjusted OR = 5.845, 95% CI = 1.423 to 24.010). IFN-gamma +874A>T and IL-10 -1082A>G were not associated with risk for suicide. Lethality of suicide attempt was not associated with all three cytokine genotype and allele types.
Limitations: Relative small sample size and cross-sectional design is our limitations.
Conclusions: TNF-alpha -308G>A polymorphism is an independent risk factor for suicide attempt in MDD. Future studies are needed to clarify neural mechanisms by which GG genotype of TNF-alpha -308G>A influences on suicide in MDD.

NR4-52

UNCOMMON COMORBIDITIES WITH TREATMENT REFRACTORY OCD - A DESCRIPTIVE ANALYSIS OF 467 PATIENTS TREATED AT A SPECIALIST OCD SERVICE

Lead Author: Himanshu Tyagi, M.D.
Co-Author(s): Dr Rupal Patel
Dr Lynne M Drummond

SUMMARY:
Background

Obsessive Compulsive Disorder (OCD) is frequently comorbid with many psychiatric and non-psychiatric illnesses. Most common comorbidity seen with OCD is depression and the rate of this particular comorbidity appears to increase with increasing severity of the illness. Research indicates the presence of many other psychiatric comorbidities with OCD like tic disorders, which may have an impact on correct and timely diagnosis, severity of OCD, treatment provision and treatment outcomes. As it is vitally important to understand the rates and roles of such comorbidities in OCD to ensure better care, we decided to look at 467 patients treated over a span of five years at a British specialist centre for the treatment of Obsessive Compulsive and Related anxiety disorders.

Method

We used routinely collected clinical data to perform a retrospective analysis of the comorbid illnesses other than depression, as documented in the electronic case notes of the patients, whose primary diagnosis was noted to be treatment refractory OCD. SPPS was used to record and analyse the data on primary and secondary diagnosis. Only a descriptive analysis was performed as the retrospective nature of the study prevents us from making any other inferences. For the purpose of this study, we defined uncommon as any comorbidity with less than 10% prevalence in our sample.

Results

Sample size: 467 patients
Females: 52.2%
Males: 48.8%
Comorbid BDD: 6.0%
Comorbid Hoarding: 7.3%
Comorbid Other Anxiety Disorders: 4.7%
Comorbid psychotic disorders (any): 2.1%
Comorbid schizophrenia: 1.1%
Comorbid PTSD: 1.1%
Comorbid personality disorder: 4.3%
Comorbid illicit drug abuse: 1.3%
Comorbid alcohol abuse: 1.5%
Comorbid bipolar illness: 0.6%
Comorbid eating disorder (including disordered eating): 5.6%

Conclusions

These results represent uncommon comorbidities in treatment refractory OCD patients. The long list of varied comorbidities

highlights that severe OCD is a complex condition and would require treatment by clinicians experienced in the treatment of OCD. It is important to recognise the role these comorbidities might play in the treatment response and refractoriness of this severely disabling illness.

POSTER SESSION 5
YOUNG INVESTIGATORS 1

NR5-01: WITHDRAWN

NR5-02
A CLINICAL COMPARISON BETWEEN BIPOLAR PATIENTS WITH AND WITHOUT A FAMILY HISTORY OF BIPOLAR DISORDER

Lead Author: Jagan Mohan Rao Jakkula, M.D.
Co-Author(s): Elizabeth C Penick , Ph.D
Ekkehard Othmer, M.D., Ph.D
Edward N. Hunter , Ph. D
Elizabeth J. Nickel , M.A.
Barry Liskow, M.D.
William F.Gabrielli, M.D.,Ph.D

SUMMARY:

Objective: To compare the clinical characteristics of male and female bipolar patients with and without a family history of bipolar disorder. Method: All consecutive admissions over a five-year period to a large psychiatric outpatient clinic who met diagnostic criteria for Bipolar I Disorder (N=233) were divided into those with (n=74) and without (n=159) a positive family history of bipolar disorder. About one-third (36%) were male. All completed a structured psychiatric interview, a detailed family and social history survey, the Symptom Checklist-90-R and a clinical examination. Results: Positive family history bipolar patients (FH+) were younger than bipolar patients with no family history of bipolar disorder (FH-). The FH+ patients satisfied criteria for more lifetime psychiatric syndromes, i.e., alcohol, drug abuse, depression and panic attack disorder. Similarly, FH+ bipolar patients reported much greater psychiatric comorbidity among their first degree relatives. The age of onset for mania and depression was younger in the FH+ bipolar patients. The mean number of lifetime mania and depression symptoms was higher in the FH+ patients. On the SCL-90-R the only family history differences were found among the males: family history positive bipolar males reported higher levels of severity for current psychiatric distress. Conclusion: A family history of bipolar disorder among bipolar patients conveys a higher risk for psychiatric comorbidity and greater symptom severity that will require special attention from physicians. The higher symptomatic effect was more pronounced in bipolar males.

NR5-03
A CURRENT REVIEW OF CYTOCHROME P450 INTERACTIONS OF PSYCHOTROPIC DRUGS

Lead Author: Subramoniam Madhusoodanan, M.D.
Co-Author(s): Umamahesh Velama M.D
Jeniel Parmar Ph.D
Diana Goia M.D
Ronald Brenner M.D

SUMMARY:

Introduction/Hypothesis: Majority of psychotropic agents are biotransformed by hepatic enzymes which can lead to significant drug-drug interactions. Most drug-drug interactions of psychotropic drugs occur at metabolic level involving the cytochrome P450 system. Concomitant administration of multiple medications that induce; inhibit or are substrates of the major CYP 450s can cause changes in plasma levels of the drugs leading to unexpected side effects or suboptimal efficacy. CYP inhibition can reduce the metabolism of a given drug leading to increased levels and serious adverse effects. CYP induction can cause increased metabolism leading to reduced plasma drug levels and suboptimal efficacy. Psychotropic drugs may interact with other prescribed drugs for medical conditions, over the counter drugs, herbal products, dietary supplements and certain food items.

Methods: We searched the U.S National Library of Medicine, Psych Info and Cochrane reviews from 1981 to 2012. Search was limited to English language terms, psychotropic drugs, CYP 450s and drug interactions.

Results: A total of 1593 citations were retrieved. We reviewed clinical trials, double blind placebo controlled studies, randomized controlled trials, case reports and review articles. Results indicated that majority of serious drug- drug interactions are caused by inhibition of CYP 450s by various endogenous and exogenous compounds.

Conclusion/Discussion: Pharmacogenetic studies of genetic mutations like single nucleotide polymorphisms (SNP), copy number variabilities (CNV) and differences in ethnicity leading to ultra rapid metabolizers (UM) and poor metabolizers (PM) are of paramount importance in the assessments. A thorough knowledge of psychiatric disorders, mechanism of action of drugs and role of CYP 450 are key to optimal care. Patients should be educated to keep a list of all prescribed medications, OTC drugs and dietary supplements and present it to all the physicians involved in their care. Electronic databases will largely facilitate the retrieval of information and appropriate drug therapy.

NR5-04
LOW THYROID STUIMULATING HORMONE LEVELS IN ACUTE GEROPSYCHIATRIC ADMISSION AND IMPROVEMENT WITH RESOLUTION OF PSYCHOSIS

Lead Author: Subramoniam Madhusoodanan, M.D.
Co-Author(s): Diana Goia MD

SUMMARY:

Introduction/Hypothesis: thyroid function abnormalities are not uncommon in acute psychiatric admissions in adults and adolescents. However there is paucity of published data in acute geropsychiatric patients. A seventy five year old African American man with Alzheimer's dementia was admitted with symptoms of agitation, aggression and delusional behavior.

Patient had no history of thyroid disorder. The thyroid stimulating hormone (TSH) level was low at 0.235 mIU/ml. Other thyroid workup was negative. We suspected that the TSH abnormalities were possibly related to the acute psychosis.

Methods: Serial measurements of TSH every 5 days and concomitant assessment of treatment progress with clinical global impression scale (CGI), severity and improvement scores were done.

Results: TSH levels improved from an admission low of 0.235 to 0.346 after 5 days and 0.510 after 10 days. The CGI score severity was 6 on admission (baseline) and 1 at discharge (endpoint). The CGI improvement score was 2 at midpoint and 1 at discharge (end point).

Conclusion/Discussion: Improvement in TSH levels corresponded with improvement in the psychosis, as evidenced by the CGI scale changes. Of the various thyroid function abnormalities in acute psychosis, TSH changes are less common. Elevated triiodothyronine uptake (T3 uptake) is more common. Thyroid work-up and follow-up thyroid functions in 2 weeks are recommended before treatment options are considered for thyroid function abnormalities in acute psychotic patients.

NR5-05
ANTIDEPRESSANT EFFICACY OF KETAMINE IN TREATMENT-RESISTANT DEPRESSION: A TWO-SITE, RANDOMIZED, PARALLEL-ARM, MIDAZOLAM-CONTROLLED, CLINICAL TRIAL

Lead Author: James W. Murrough, M.D.
Co-Author(s): Dan V. Iosifescu, Lee C. Chang, Rayan K. Al Jurdi, Charles M. Green, Syed Iqbal, Sarah Pillemer, Andrew M. Perez, Alexandra Foulkes, Asim Shah, Dennis S. Charney, Sanjay J. Mathew

SUMMARY:

Background: A single intravenous (IV) infusion of ketamine – a high-affinity glutamate N-methyl-d-aspartate (NMDA) receptor antagonist – had large and rapid antidepressant effects with 24 hours of administration in several small studies in depressed patients, including those with previous medication-resistance. Given ketamine's acute dissociative properties, the use of placebo conditions devoid of psychoactive properties raised the possibility that inadequate blinding biased outcomes. The current study was designed to address these gaps in the literature by testing the rapid (24 hour) antidepressant effects of ketamine in treatment-resistant major depression (TRD) using a randomized, parallel-arm design with an "active" placebo control condition – the benzodiazepine midazolam.

Methods: 72 psychotropic medication-free patients with TRD received a single 40-minute IV infusion of either ketamine hydrochloride (0.5 mg/kg) or midazolam (0.045 mg/kg) in a 2:1 randomization scheme. The primary outcome was change in MADRS score from baseline to 24 hours post-infusion and proportion of participants meeting response criteria at 24 hours. Secondary outcomes included the (1) durability of antidepressant benefit over the subsequent 7-day interval and (2) safety and tolerability of the interventions.

Results: A treatment x time interaction demonstrated differential change for the two groups over the first 24 hour period ($F(1,70) = 9.62$, $p < 0.003$). Ketamine demonstrated a 16.5 point decrease ($t(46) = -10.31$, $p < 0.0001$) on the MADRS while midazolam showed an 8.8 point decrease ($t(24) = -4.63$, $p < 0.0001$). At 24 hours post-infusion, the response rate in the ketamine arm was 63.8%, compared to 28.0% in the midazolam arm ($p=0.006$). Controlling for site differences, ketamine increased the odds of responding by a factor of 2.16 (95% CI 1.31-4.09). At Day 7, the response rate in the ketamine arm was 45.7%, compared to 18.2% in the midazolam arm ($p < 0.034$). After controlling for site differences, ketamine increased the odds of responding by a factor of 1.97 (95% CI 1.01-4.34). Both study drugs were well-tolerated.

Discussion: In the largest clinical trial testing the efficacy of IV ketamine in mood disorders conducted to date, ketamine was associated with a rapid and large antidepressant effect at 24 hours, significantly superior to midazolam, and this superior efficacy was maintained seven days post-infusion. Ketamine appears to possess rapid antidepressant effects independent of its transient psychoactive effects – a conclusion validated by the novel use of midazolam as an active control condition in this study.

NR5-06
ANTIDEPRESSANTS WILL NOT KEEP YOU OUT OF THE HOSPITAL: A ONE-YEAR FOLLOW UP OF 377 PATIENTS WITH BIPOLAR DEPRESSION

Lead Author: Jessica Lynn Warner, M.D.

SUMMARY:

Introduction:
Depressive episodes remain the major cause of disability in bipolar patients. Recently, research from the Systematic Treatment Enhancement Program for Bipolar Disorder (STEP-BD) indicated that adding an antidepressant to a mood stabilizer confers no additional benefit over a mood stabilizer alone. We have observed that, despite these data, antidepressants are often prescribed for bipolar depression in our hospital and hypothesized that their ongoing use might reflect a clinical advantage not observed in research trials. The purpose of this study was to evaluate this potential effect using all-cause hospital readmission rates as a naturalistic metric of psychiatric outcomes in the year post-discharge.

Methods:
A retrospective chart review was conducted on patients ages 18-65 with Bipolar I Disorder, Most Recent Episode Depressed, who were discharged from Butler Hospital in Providence, RI, from January 1, 2008 to July 12, 2011. Participants were divided into those that were prescribed an antidepressant at discharge (AD+) and those that were not (AD-). Only those on an adequate dose of a mood stabilizer or atypical antipsychotic were included. Primary outcome measures were

the impact of antidepressant exposure on readmission rates and time to readmission in the year post-discharge. Secondary analyses examined the impact of individual antidepressants, anxiety and affective switch rates.

Results:
377 patients were included in the study. There were no clinically significant demographic differences between AD+ and AD- groups. Binary logistic regression showed no group differences in readmission rates in the year post-discharge ($p = .77$). Survival analysis using Cox regression showed no group differences in time to readmission in the year post-discharge ($p = .88$); mean time to readmission was 205 ± 152 days. Those with anxiety disorders had a significantly higher readmission rate and shorter time to readmission regardless of antidepressant status. When controlling for anxiety , patients discharged on venlafaxine were more likely to be readmitted compared to the AD- group or those on other antidepressants (hazard ratio=2.35, 95% CI 1.03-5.38) with a statistical trend for patients on venlafaxine to be readmitted more rapidly. There was no relationship between antidepressant class and affective switch; however, anxiety was a strong predictor of affective switch (hazard ratio=7.61, 95% CI 2.27-25.52).

Conclusions:
Our findings are consistent with and expand upon STEP-BD using a clinically relevant outcome measure. Our study suggests that antidepressants do not prevent hospital readmission and that venlafaxine may be harmful. It also demonstrates that bipolar depression with comorbid anxiety represents a significant clinical problem. While our data are limited by their retrospective nature, these results should prompt clinicians to carefully consider antidepressant use for bipolar depression.

NR5-07
ASSESSING FOLLOW-UP COMPLIANCE AFTER PSYCHIATRIC CRISIS: A PROSPECTIVE COHORT STUDY

Lead Author: Jana Lincoln, M.D.
Co-Author(s): Rosalee Zackula, MA; Denise Williams LMSW, MBA; Alisha Oelke, MD; Jennifer Gibson, LMSW; Shean McKnight, MD; Alexandra Flynn, MD,PhD; Hala Kazanchi, MD; Crystal Larson, DO; Vikram Malhotra, MD; Anurag Goel, MD

SUMMARY:

INTRODUCTION
The National Alliance on Mental Illness graded Kansas' mental health system an "F" in 2006. Why? Prevalence of mental illness was high, costly overuse of psychiatric emergency departments (pED), repeated patient hospitalization and low treatment adherence. Follow-up compliance with outpatient providers was evaluated in a multi-site, prospective cohort study to determine differences in patients discharged with prescheduled aftercare (Group1) versus patients dismissed without (Group2). To understand the nature of non-compliance, barriers to follow-up care were surveyed.
METHODS
The study was conducted at two mid-west locations, a pED and inpatient psychiatric facility. Standards of care at these locations included recommendation of follow-up with an outpatient provider within one week of discharge. Patient recruitment occurred between June and November 2012. Cognitively intact patients discharged from either facility were eligible to participate. The KUSM-W Human Subjects Committee approved the study. The study protocol was 1) consent patients at discharge and identify groups, 2) follow-up by phone within 14 days, 3) administer survey, Barriers of Care and 4) compare information gathered to electronic medical records. Follow-up phone calls occurred on day 7, 10 or 14. If contact was not attained by day 14 the participant was considered lost to follow-up. Both groups were monitored similarly with one exception: Group1 prescheduled outpatient providers were called on day 7. If patient was reported compliant, no further contact was made. If non-compliant, participant phoning began. Data were recorded in REDCap (a secure, web-based application for building and managing online surveys and databases) and downloaded to MS Excel or to IBM SPSS for statistical analysis. The primary outcome measure was patient compliance to aftercare. To control for confounding effects of disease severity, participants were restricted to those with a GAF>40. Data were evaluated using relative risk and Pearson's Chi-square tests.
RESULTS
The number consented was 242; 137 were females, mean age 38.6 years (sd 11.9) and 103 males, 40.1 (11.9); eight were re-hospitalized. Group1 had 152 participants (9.9% with multiple prior hospitalizations in past six months) and Group2 had 82 (9.8% with multiple prior hospitalizations). Of these, 35% (80 of 234) were lost to follow-up. Group2 was twice as likely lost than Group1; RR = 2.2, 95% CI (1.5, 3.1) and X2 = 17.5, $p < 0.001$. For the remaining, 77% (119 of 154) were compliant, with Group2 six times more likely non-compliant than Group1; RR = 6.4, 95% CI (3.5, 11.9) and X2 = 41.9, $p < 0.001$. Transportation issues were the most reported barrier.
DISCUSSION
Participants without scheduled aftercare were twice as likely lost to follow-up and six times as likely non-compliant on follow-up appointments. Rates of prior hospitalizations were about 10% per group. Prescheduling patients prior to discharge may improve outcomes.

NR5-09
ATTITUDE TOWARDS MENTAL HEALTH IN THE INDIAN SUBCONTINENT POPULATION OF THE UNITED STATES

Lead Author: Adeel Ansari, M.B.B.S.
Co-Author(s): Kunal B. Tank, MD
Albert B. Poje, PhD
Asiya B. Ansari, DPM
Dhwani Chotalia, BSN, RN
Barry Liskow, MD
Angela Mayorga ,MD
William Gabrielli, MD

SUMMARY:

BACKGROUND: Growing clinical evidence implicates

the role of culture in obtaining and appraising mental health services in the United States (US) and abroad. Prior research has shown that individuals from many cultural backgrounds including Chinese, Japanese, Korean, Vietnamese, African-American, Hispanic, Latino, American-Indian and others can have negative attitudes regarding mental health or decreased utilization of mental health services. However, to our knowledge, no prior examination to date has examined attitudes towards mental health in immigrants from the Indian Subcontinent living in the US. In the present study, we examined attitudes towards mental health issues and services in this population.
METHODS: 123 adult (18 or older) participants completed a survey assessing demographic background and attitudes towards mental health using the Level of Familiarity Questionnaire (Corrigan et al., 2007) and the Fear and Behavioral Intentions Toward the Mentally Ill inventory (Wolff et al., 2006) using an internet-based survey engine. Items used a 5-point Likert scale format. Data were collected anonymously following IRB approval for this study.
RESULTS: A majority of respondents (83.7%) completed the questionnaire. A most were males (68%) from India or Pakistan (98%) working in healthcare (56%) living in the state of Kansas (40%) with graduate level of education (64%) who identified with their culture of origin (70%). Of these, a majority had indirect (89%), observational (75%) or personal (67%) experiences with people with mental health issues. These respondents reported having a lack of fear regarding people with mental illness (42%) and reported they would engage in prosocial acts of saying "hello" (57%) or greeting a neighbor with a diagnosis (48%). However, more ambivalence in responding was observed on items assessing acceptance to a patient living in one's neighborhood, coming into the home, being a colleague or a friend. Lastly a majority indicated they would receive treatment if needed (83%)
CONCLUSIONS: The results of the present study suggest most individuals in this study population are aware of mental health issues, have limited fear of the mentally ill, would be friendly to those with mental illness and would seek help if needed. However, these data also suggest that despite these pro- mental health factors, some reluctance and perhaps stigma remains concerning forming more intimate or personal relationships with individuals with mental illness. Factors mediating these relationships are discussed.

NR5-10
AUTONOMIC SEIZURES WITH PANIC DISORDER FEATURES

Lead Author: Rohini Ravindran, M.D.
Co-Author(s): Dr. Babur Bhatti MD

SUMMARY:

In this case write up, a patient who was initially diagnosed with panic disorder and later found to have partial seizures are being described. Mr B is a 19 year old male with a history of sudden spells which lasted less than a minute. Prior to the spells starting, he would have strange tastes in his mouth and during the spell he was unable to speak or come up with words. He never lost consciousness and could have several spells a day. He did not have any psychiatric symptoms and his history was significant for recreational cannabis use. Initially he was given quietiapine, hydroxyzine, and clonazepam by the psychiatrist. However, given the stereotypic behavior and the prodrome of taste changes, the neurologist felt it was indicative of complex partial seizures and he was started on valproic acid.
Partial seizures and panic disorder often share similar features which can make diagnosis challenging. For example, during the prodromal period of seizures, patients can experience similar symptoms such as anxiety, depression, tension etc. Temporal lobe seizures are often characterized by autonomic symptoms similar to panic attacks such as changes in heart rate, blood pressure, etc. The features of both disorders will be described as well as an algorithm to differentiate the disorders. This paper will further consider syncopal attacks and psychogenic seizures to provide a complete differential diagnosis. It is important for the psychiatrist to identify features that warrant neurological or cardiac evaluation in these situations so patients can get the appropriate treatments.

NR5-11
MUNCHASEN SYNDROME: PSYCHIATRIST VERSUS POLICEMAN

Lead Author: Rohini Ravindran, M.D.
Co-Author(s): Dr Babur Bhatti MD

SUMMARY:

A 23 year old African American female with a history of sickle cell disease presented to the Emergency Room with a three day history of generalized body aches and pain of 10/10 but denied all other symptoms including shortness of breath, chest pain, and dehydration. She had a prior history of DVT and pulmonary embolism for which she had an IVC filter placed. At this time her INR was subtherapeutic so her Coumadin was restarted. She was subsequently treated for vaso-occlusive crisis with intravenous fluids and analgesics. Her blood cultures were positive for gram negative rods on admission to the hospital. She remained in the hospital for 6 weeks with infections ranging from Candida glabrata, Stephonemas maltophilia, VRE in the urine, Enterococcus faecalis, and MRSA. Infectious disease placed the patient on a wide range of antibiotic regimens which had to be constantly modified. She received a thorough workup including echocardiograms, bone scan, cultures of her IJ tips, and radio tagged WBC. During the admission, the nursing staff began noticing syringes and blades under her sheets as well as matresses which made them suspicious. At this time she had a PICC line to receive antibiotics early in her admission which posed concern to the team. Psychiatry was consulted at this point to rule out a possible Munchausen's syndrome. The primary team confronted the patient who denied manipulating her lines or self-inflicting the infections. She would always insist to the psychiatry team that she wished to return home to her son and had special activities planned for him.
This case study considers the ethical aspects surrounding the care of such patients. It is clear these behaviors are produced as a result of an underlying conflict but it raises the questions how should the clinician handle these patients. Often there are other comorbid psychiatric illnesses and a history

of childhood abuse or neglect. In this case there was likely a deeper explanation than playing "the sick role" because the patient had sickle disease which typically has a difficult course involving several hospital admissions. She did have a history of being in foster care and suffering from physical as well as emotional abuse from her son's father. The problem with this illness is that once the patient's deceptive behavior is exposed, they runaway which makes it impossible to study the syndrome. There are no randomized controlled trials looking at therapeutic interventions etc. so the questions surrounding Munchausen syndrome are not easily answered.
The other side of the coin is considering the impact on health care. When does the physician cross the boundary to become a law enforcement agent. Another issue surrounding these patients is that of avoiding malpractice and recognizing true illness despite suspicion of deceptiveness. This also raises a question of whether patients engaging in deceptiveness should be subject to charges of criminal fraud or be committed for involuntary

NR5-12
BULLYING VICTIMIZATION, MENTAL HEALTH PROBLEMS AND SUICIDAL BEHAVIOR

Lead Author: Pyung hwa Park
Co-Author(s): Jae Hong Park
Byeong Moo Choe
Seong Hwan Kim
Chang-yeop Kim

SUMMARY:

Objective
Bullying involves repeated hurtful actions between peers where an imbalance of power exist (L. Arseneault, 2010). Bullying victimization warrants attention in the context of self harm among adolescents because of its association with suicidal behavior as well as with a wide range of mental health problems such as depression, anxiety (Elaine M. McMahon, 2010). School bullying victimization and suicide are key issues of mental health for Korean adolescents. Bullying victimization is a common problem among Korean adolescents, with prevalence of 14% reported in Korean middle school students (Young Shin Kim, 2005).
The objectives of this study were to compare the mental health problems between bullied and non-bullied students and examine association between bullying victimization and suicidal behavior.

Methods
The data of this study comprises responses of students of the 7th, 8th and the 9th grade of 44 middle schools in Busan, Korea. Study procedure was as follows; first, all participants (n=26,092) were screened by using Korean version of Youth Self-Report (YSR). Students with a T-score ?60 on the total behavioral problem subscale of YSR were considered to be mental health risk group (n=1838). Next, we interviewed high risk group using Korean version of Kiddie-Schedule for Affective Disorders and Schizophrenia-Present and Lifetime Version. Bullying victimization and suicidal behavior were directly questioned during interviewing session. Finally 1,196 (male 544, female 652) middle school students completed the interview. The Institutional Review Board of Dong-A University Hospital approved the study.

Results
Of the sample of 1,196 students who completed diagnostic interview, 301 (25.2%) reported life time history of bullying victimization. Results of YSR scores showed that bullied students had significantly high scores of anxiety/depression subscale ($t=5.8$, $p<0.001$), internalizing problems subscale ($t=5.8$, $p<0.001$) and total behavioral problems subscale ($t=5.1$, $p<0.001$). In term of psychiatric morbidity, depression was more common among those students who were being bullied (?2=66.9 $p<0.001$). Multivariate logistic regression models found that bullying victimization significantly increased the likelihood of suicidal ideation (OR=1.7, 95% CI=1.3-2.3, $p<0.001$) and suicide attempts (OR=4.0, 95% CI=2.2-7.2, $p<0.001$).

Conclusion
Victims of school bullying had more severe mental health problems and higher risk for suicidal behavior. Results of this study underline the importance of bullying-prevention policies in schools.

NR5-13
CLOZAPINE AUGMENTATION WITH PIMOZIDE: A CASE REPORT

Lead Author: Evrim Ebru Y?lmazer
Co-Author(s): JUL?DE GÜLER
M?NE ERGELEN
BU?RA ÇET?N

SUMMARY:

Clozapine is still the gold standart for the treatment of resistant schizophrenia although it is not effective in 50% of the patients and needs augmentat?on treatment. Therefore, clozapine has been combined in many studies with various mood stabilizing drugs, such as typical and atypical antipsychotics, lithium and lamotrigine. We demonstrate here a case diagnosed with resistant schizophrenia who's psychotic symptomatic showed regression after clozapine - pimozide combination therapy.

Our case is 45 years old, married women who has been diagnosed with schizophrenia for 13 years and four times hospitalized. She had visual and auditory hallucinations and delusions of somatic type.
The patient's treatment regiment in the clinic was ordered as 4 mg/day risperidone, clozapine 400 mg/day and 50 mg/2 weeks long acting risperidone. In?tial PANSS and BPRS scores were 188 and 34 respectively. As the patient's PANSS and BPRS scores showed no significant improvement, risperidone treatment was stopped after dosage reduction and clozapine treatment increased to 600 mg/day. 2 mg/day pimozide augmentation agent was initiated as the patient's somatic delusions continued. The patient's follow-up showed regression of somatic delusions and psychotic symptoms, improvement of insight, no hallucinations and partial

clinical remission. By the time of discharge from the clinic the patient's PANSS and BPRS scores were 60 and 18 respectively.

Studies concerning clozapine combination strategies mostly are case reports and open label studies. A very small number of controlled group studies with chlorpromazine, risperidone, and aripiprazole combination reveale ineffectiveness. Positive results were only obtained with sulpiride and amisulpiride, but these studies have also questionable methodologies which also cause suspicion concerning study results. Although there are several case reports supporting positive effects of augmentation of pimozide to clozapine, literature search revealed not one efficious combination therapy result in a placebo controlled study.

NR5-14
CLOZAPINE-INDUCED HYPOMOTILITY: A CASE REPORT

Lead Author: Renu Maria Culas, M.D.
Co-Author(s): Chandler Rainey MD, Simona Goschin MD, Nancy Maruyama MD

SUMMARY:

Introduction:

An under recognized side effect of clozapine is gastrointestinal hypomotility caused by its potent anticholinergic and antiserotonergic effects. Clozapine can cause dysphagia, ileus, intestinal obstruction, bowel ischemia and megacolon. Palmer et al called this clozapine-induced gastrointestinal hypomotility (CIGH). CIGH has significant morbidity due to bowel resection and a 27.5% mortality rate. Rapidly fatal bowel ischemia has been reported. Risk factors for CIGH include high dose clozapine, high serum clozapine level, fever, co-morbid medical illness, history of gastrointestinal pathology and co-admistration of anticholinergic and CYP1A2 enzyme inhibitors. We review the literature and present a case report.

Case Report:

A 50 yr old man with a past medical history of hypertension, gout, diabetes type 2 and a past psychiatric history of chronic undifferentiated schizophrenia was admitted to the intensive care unit with septic shock. Imaging showed ischemia in segments of bowel, pnematosis and mesenteric edema. He continued to have intermittent abdominal pain and no bowel movements. Medications included clozapine 200 mg Q12 H with a serum level of 1060 ng/ml. Given the possibility that the patient's presentation was secondary to CIGH, clozapine dose was gradually decreased by 25 mg daily over four days to 150 mg q 12 H. Stool softeners were started. Medications were reviewed for other anticholinergic agents. Within a few days of the dose reduction, the patient had regular bowel movements and resolution of pain symptoms without any reemergence of psychosis.

Conclusions: We review the literature on ClGH and discuss risks, screening and prevention measures, along with management of patients with CIGH.

References:

1)Chopra A., Rai A. et al., 2011, A dangerous GI complication

2)Palmer S. E., McLean R. M. et al., 2008, Life threatening Clozapine Induced Gastrointestinal Hypomoticlity: An Analysis of 102 Cases

NO. 15
COGNITIVE, FUNCTIONAL, BIOLOGICAL, AND QUALITY OF LIFE CHANGES FOR PATIENTS WITH TREATMENT-RESISTANT MDD TREATED BY TRANSCRANIAL MAGNETIC STIMULATION

Lead Author: Joel Breen, D.O.
Co-Author(s): Scott Babe M.D,

SUMMARY:

Major Depressive Disorder is a common, serious mental health disorder. Many people treated with medications fail to achieve full remission of their symptoms despite adequate dosing and time for efficacy. This study sought to examine the efficacy of left sided rTMS therapy in patients that have failed at least one trial of antidepressant medication therapy. Each patient was given 4-6 weeks of TMS therapy 5 days a week. We examined measures of improvement in multiple domains: cognitive, functional, and quality of life measures using standard self-rating and examiner lead instruments. In addition, biological markers thought to be associated with depression were measured in order to have a complete understanding of possible benefits of TMS in Major Depressive Disorder.

NR5-16
COMBINED ACCEPTANCE AND COMMITMENT AND BEHAVIORAL THERAPY FOR TREATMENT OF KLEPTOMANIA: A CASE REPORT

Lead Author: Sepideh N. Bajestan, M.D., Ph.D.
Co-Author(s): Gloria Gia Maramba, PhD, Mental Health Services, VA Palo Alto Healthcare System

SUMMARY:

Sepideh N Bajestan, MD, PhD 1,2, Gloria Gia Maramba, PhD 2

Institutions: 1,2 Department of Psychiatry and Behavioral Sciences, Stanford University School of Medicine, 401 Quarry Road, Stanford, CA 94305-5718
2 Mental Health Services, VA Palo Alto Healthcare System, 3801 Miranda Avenue, Palo Alto, CA 94304-1290
Background: Kleptomania is an impulse control disorder that can cause significant impairment and serious consequences. Acceptance and commitment therapy (ACT) helps patients to use mindfulness and acceptance skills in response to uncontrollable internal experiences, and behave more consistently with their values.

Case Report: 72-year-old single male with history of depression (on 20 mgs of Citalopram) and nicotine-dependence that

had been successfully treated, participated in a twenty-week course of psychotherapy. The shoplifting began twenty years ago with stealing cigarettes after a huge financial loss but continued even after he quit smoking (twelve years ago) while the stolen objects were not needed for personal use or for their monetary value. He reported 5-7 incidents of compulsive shopliftings/week.

Although he had not faced legal consequences, he considered shoplifting inconsistent with his values. We used two monitoring forms for awareness training: 1) in the shoplifting-monitoring form, patient tracked settings and thoughts/feelings before and after shopliftings 2) in the urge-monitoring form, he recorded three urges/day and how he responded to the urges. He was then able to label the shoplifting warning signs. As a part of Behavioral therapy (BT), stimulus-control training included avoiding wearing jackets with multiple pockets and competitive-response included simple behavior incompatible with shoplifting. BT was employed to replace the compulsive behavior, and Mindfulness Training (MT) was employed to control the urges. With MT, he improved his ability to sit with unpleasant urges. He committed to engage in value-consistent behaviors including gardening and construction projects instead of shoplifting. Over time, his cognitive fusion with urges reduced. In addition, he identified himself as a "non-shoplifter" which was accompanied by a sense of accomplishment. The shopliftings reduced from seven/week to zero by week nine, with one lapse on week twelve. In three monthly phone follow-ups, he reported one incident of shoplifting.

Discussion:
In impulse control disorders including Kleptomania, controlling urges can be debilitating. Mindfulness-base psychotherapy can be helpful by focusing on awareness and accepting the unpleasant internal experiences. Early in the course of psychotherapy, BT can provide alternative ways of response to urges. Kleptomania is ego-dystonic and clarifying values can provide significant motivation. More studies are warranted to further examine this therapeutic approach for Kleptomania.

NR5-17
COMMUNITY DISCOURSE AND RHETORICAL STRATEGIES IN THE DEVELOPMENT OF THE NEW DIAGNOSTIC AND STATISTICAL MANUAL OF MENTAL DISORDERS (DSM-5)

Lead Author: Kelsey O'Connell

SUMMARY:

My research examines the rhetorical strategies at work in the community discussions regarding the development of the new Diagnostic and Statistical Manual of Mental Disorders (DSM), especially as related to Generalized Anxiety Disorder (GAD). The fifth edition of the DSM (DSM-5) is scheduled to be published in May 2013. I have the unique opportunity to be one of the first to collect and contextualize the rhetorical conversations that are facilitating the development of this manual. Throughout my research process, I will annotate changes related to GAD throughout the four DSMs; examine DSM-5 development and work group publications and work group transcripts from the American Psychiatric Association (APA) and the National Institute of Mental Health (NIMH) related to GAD; and conduct before and after interviews with approximately fifteen practicing psychiatrists about their experiences with the DSM diagnostic guidelines, DSM development process for GAD, and DSM revision process.

NR5-18
COMPARISON OF TEMPERAMENT AND CLINICAL FEATURES OF BIPOLAR DISORDER PATIENTS WITH AND WITHOUT SUICIDE ATTEMPT HISTORY

Lead Author: Serhat Tunc
Co-Author(s): Kursat Altinbas, Assistant Professor of Psychiatry, Canakkale Onsekiz Mart University

SUMMARY:

Aim: Suicide attempt is quite frequently encountered in the course of bipolar disorder. In recent years many studies were conducted for examining the relationship between temperament characteristics and clinical characteristics of patients with bipolar disorder. From here we were aimed to compare the specific temperament and clinical features of bipolar disorder patients with and without suicide attempt history in this study.
Method: Totally 100 patients were enrolled with a history of suicide attempt 50 patients and without a history of suicide attempt 50 patients according to diagnosis of DSM-IV-TR criteria for 'Bipolar Disorder-Remission' at Bakirkoy Training and Research Hospital for Psychiatry, Neurology and Neurosurgery. People will be informed and written informed consent will be taken before enrollment in the study. Sociodemographic data form and TEMPS-A was applied.
Findings: Depressive, cyclothymic and irritabl temperament scores were statistically significantly higher in bipolar patients with suicide attempt than in patients without suicide attempt. Episode duration, a history of manic switch, a family history of psychiatric illness, a history of childhood trauma and cigarette and alcohol usage rates were higher in the group with suicide attempt than in the group without suicide attempt.
Discussion: Besides the clinical features of some findings, especially temperamental features supports the view of susceptibility to suicidal behavior that are also common to the general literatur.
Results: Depressive, cyclothymic and irritabl temperament scores were higher in bipolar patients with suicide attempt than in bipolar patients without suicide attempt. Determination of specific temperamental features associated with suicide can take precautions and can predict suicide which is the highest risk of death in patients with bipolar disorder.
Key Words: Bipolar Disorder, Temperament, Suicide
Contact address: drserhattunc@gmail.com

NR5-19
CONNECTING WITH COLLEGE STUDENTS: THEIR ATTITUDES TOWARDS SUICIDE AND PREVENTION MESSAGES

Lead Author: Brady Bradshaw, M.D.
Co-Author(s): Marisa Echenique, Psy.D., Rachel Neuhut, M.D., Nilsa De Jesus, M.D., Lourdes Illa, M.D.

SUMMARY:
Objective: Suicide is a major problem on college campuses nationwide, and student attitudes play a significant role in prevention and help seeking behavior. Our aim is to identify college student attitudes about suicide and preferred mechanisms of receiving prevention messages to guide development of effective interventions.
Method: 119 students were randomly surveyed using a modified version of the Suicide Prevention, Exposure, Awareness and Knowledge Survey (SPEAKS), which included an added question regarding the most effective way to share suicide prevention materials.
Results: Participants: 119 students (69 males, 50 females) were interviewed, ages 17-34 (mean: 22, SD 3.23); 35% were underclassmen and 65% upperclassmen/graduate level. The sample included 40% Caucasian, 40% Hispanic, 8% Asian, 8% Middle Eastern and 4% Black, and 45% were international students.
Communication: Males were more likely than females to prefer receiving suicide prevention messages via high-tech methods such as Facebook, Twitter and email/text (76% vs. 52%, p=0.007). Females were more likely than males to choose low-tech methods such as in person and posters/ brochures (48% vs. 25%, p=.009). Lower classmen preferred high-tech methods compared to upper classmen (78% vs. 60%, p=.06). Upper classmen/graduate students preferred low-tech methods (41% vs. 23%, p=.064).
Knowledge: Only 34% of students had been exposed to suicide prevention materials on campus and 30% were aware of resources to refer at risk students. More females than males knew where to find the counseling center (71% vs. 44%, p=.003).
Attitudes: Hispanics were more likely to personally view someone treated for suicidal thoughts less favorably compared to non-Hispanics (20% vs. 3%. p=.008). Lower classmen were also more likely than upper classmen to view someone treated for suicidal thoughts less favorably (22% vs. 3%, p=.002). Thirty percent of students believed that the campus would see a person less favorably if they had received treatment for suicidal thoughts. This perception was more prevalent among males than females (53% vs. 28%, p=.019); non-international students than international students (53% vs. 31%, p=.036), and upper classmen/graduate students than undergraduates (49% vs. 29%, p=.066). Upperclassmen/graduate students were also more likely than undergraduates to believe that it is advisable for a person to conceal that he/she has been treated for suicidal thoughts (34% vs. 14%, p=.057).
Conclusions: Our results highlight the need to address student attitudes and their perceptions of campus views towards students who receive treatment for suicidal thoughts. In addition, our findings indicate that specific student groups should be targeted. High tech versus low tech means of communication may appeal to different types of students and warrants further consideration. Our findings serve as a framework for transforming the culture of suicide prevention on college campuses.

NR5-20
EATING DISORDERS IN A SAMPLE OF ADOLESCENTS WITH BORDERLINE PERSONALITY DISORDER

Lead Author: Alexandra Pham-Scottez, M.D., Ph.D.
Co-Author(s): Marion ROBIN
Ludovic GICQUEL
Isabelle NICOLAS
Olivier GUILBAUD
Aline COHEN DE LARA
Veronique DELVENNE
Mario SPERANZA
Maurice CORCOS

SUMMARY:
Objective :
The study examines the influence of eating disorder comorbidity on personality traits, Axis I and Axis II comorbidity, level of depression, and global functioning, in a sample of adolescent borderline patients.

Method :
In this multicentric longitudinal study from the European Network on Borderline Personality Disorder, a sample of 85 adolescent patients with a borderline personality disorder was assessed for Axis II comorbidity (SIDP-IV), Axis I comorbidity (K-SADS), personality dimensions (TCI), level of depression (BDI-II), global functioning (GAF), and a questionnaire about clinical and demographic variables.

Results:
33% of the adolescent borderline patients had a current diagnosis of eating disorder: anorexia nervosa (16.5%) or bulimia nervosa (16.5%). There were only girls in the anorexia nervosa and bulimia nervosa groups, but the non-eating disorder group was mixed (80% girls). Obsessive-compulsive personality disorder comorbidity was significantly more frequent in the anorexia nervosa group (64.3%) and in the bulimia nervosa group (42.9%) than in the non-eating disorder group (26.9%). TCI Persistence score is higher among anorexia nervosa patients than among bulimic or non-eating disorder patients. There are differences between the three groups concerning Axis I comorbidity: conduct disorder and disruptive disorder are more comorbid in the non-eating disorder group, bipolar disorder and major depressive disorder in the past are more frequent among bulimia nervosa patients. No difference between borderline adolescents with and without an eating disorder was found for suicide attempts and self-injurious behaviors, for GAF and BDI-II scores.

Conclusions :
Eating disorder comorbidity in borderline adolescents is high. Adolescent borderline patients with or without an eating disorder have different patterns of Axis I and II comorbidity; these results are similar to those found in adult borderline samples. Consequences of this eating disorder comorbidity will be

discussed, focusing on symptoms severity and on treatment priorities.

NR5-21
EFFECT OF FULL MOON LUNAR PHASE CYCLE ON PSYCHIATRIC EMERGENCY ROOM PRESENTATION IN TERTIARY CARE HOSPITAL SETTINGS

Lead Author: Varinderjit S. Parmar, M.D.
Co-Author(s): Ewa Talikowska-Szymczak, MD,
Peter Szymczak, MD,
Erin Meiklejohn,
Wasif Habib, MD,
Dianne Groll, PhD

SUMMARY:

Introduction

Even today, many of us think that mystical powers of the full moon induce erratic behaviors, psychiatric hospital admissions, suicides, homicides and emergency room calls. There has long been a perceived correlation between the effect of lunar cycles on human behavior and illness severity.Studies of the effects of moon cycles on mental disorders and psychiatric emergencies have always been of interest, yet, previous studies on the effect of lunar phases on psychiatric admission rates have been inconsistent.

Purpose

The purpose of this study is to find the link between full moon phases of the lunar cycle and various psychiatric presentations in tertiary care settings, including patients' gender and age within in a five-year time span.

Method

Charts of all psychiatric emergency room patients were reviewed retrospectively. Data for emergency psychiatric visits at 2 tertiary care hospitals was obtained from a five-year period, April, 2006 to March, 2011. Emergency room presentations were divided by ICD -10 criteria into 11 categories.The data was compiled from a computerized log created to record all psychiatric consultations performed by mental health services at these 2 hospitals. Collected data included patients' visit times, dates, genders, ages, and primary diagnosis. The percentage of patients who were evaluated on non-full moon days was compared to the percentage of patients evaluated on full moon days.

Results

In this analysis we compared the clustered diagnoses of participants who presented at the Kingston hospitals during the full moon to those of a control group of patients that did not present on the full moon. Patients were included in the full moon group who presented from 6 pm to 12 am on the first day of the full moon and 12 am to 6 am on the second day of the full moon. A Chi-Squared analysis was used to compare the frequencies of diagnoses in the full moon patients to those of the control group.Age and gender demographics were also observed between the groups

Conclusion

No significant differences were found between the patients presented on full moon night and the control groups, indicating that there is no change in the frequency of presentation of different diagnoses between these groups.

A significant difference was found between the different age groups. Patients presented to psychiatric emergency on full moon nights are younger than those who presented on non-full moon nights.

There was no significant difference between the gender distribution of the patients presented on full moon and non-full moon nights.

NR5-22
SEASONAL VARIATIONS OF PSYCHIATRIC EMERGENCY PRESENTATIONS TO THE TERTIARY CARE HOSPITAL SETTINGS

Lead Author: Varinderjit S. Parmar, M.D.
Co-Author(s): Ewa Talikowska-Szymczak, MD,
Peter Szymczak, MD,
Erin Meiklejohn,
Dianne Groll, PhD

SUMMARY:

Background

Referrals to psychiatry account for a large proportion of primary care, and in-hospital medical and paramedical services. Visitations to the ER are often observed to follow certain seasonal patterns. Few studies have focused on seasonal presentations of psychiatric illness in the emergency room setting. Certainly, no significant studies have focused on gathering data on seasonal presentations of psychiatric illness in an emergency department of a tertiary care center

OBJECTIVES

To determine seasonal patterns of psychiatric diagnoses presented to the emergency department in tertiary care settings.

To examine seasonal variations of basic demographics, such as age and gender, of psychiatry patients presented to emergency room in tertiary care settings.

To assist departments of psychiatry to better equip emergency room resources and to better educate the staff and learners based on results of this study.

METHODS

Charts of all psychiatric emergency room patients were reviewed retrospectively. Data for emergency psychiatric presentations from 2 tertiary hospitals was obtained from a

five-year period.
Emergency room presentations were divided by ICD -10 criteria into 11 categories. The data was first divided according to season (winter, spring, summer, and fall). Seasonal trend of psychiatric diagnoses was studied.

RESULTS

In this study we examined the seasonal difference in emergency room presentations of mental diagnoses. The data was first divided according to season (winter, spring, summer, fall), and then all seasons were compiled to form a baseline rate, which was then used in comparison with individual seasons. A One-Way ANOVA was first used to determine if there were any differences between the total presentations between the seasons, and it was found that there were no significant differences between the number of presentations.
To examine the difference in age between the seasonal groups, a One-Way ANOVA was completed that compared the average age of people presenting to the ER between the four seasons.

Conclusions

Psychiatry patients who presented in the fall were significantly younger than those who presented in all other seasons. As well, psychiatry patients who presented in the summer were significantly older than those who presented in all other seasons.

The Presentation of psychiatry patients in cluster “substance related disorder” was significantly higher during fall seasons as compared to the baseline. As well, clusters “adjustment disorder”, “anxiety disorder” and “others” were significantly lower than baseline during fall seasons.

During fall seasons, as compared to baseline, there were less significant decreases in delirium, dementia and other cognitive disorder, schizophrenia and other psychotic disorders, and somatoform and other dissociative disorders.

There were no significant differences amongst the number of presentations in all the four seasons.

NR5-23
EFFECTS OF COGNITIVE ENDEAVOR ON CHILDREN WITH ATTENTION-DEFICIT/HYPERACTIVITY DISORDER AND THETA/BETA RATION IN THEIR EEGS

Lead Author: Jeongha Park, M.D.
Co-Author(s): Se Hee Kim, MD, Ph.D., Gi Jung Hyun MD, Churl Na, MD, Ph.D., Doug Hyun Han MD, Ph.D.

SUMMARY:

Abstract
Introduction
In the review of EEG in children with attention deficit hyperactivity disorder (ADHD), elevated theta power and reduced relative alpha and beta power have been suggested. In addition, several stimulants would change the EEG pattern of frontal lobe in children with ADHD. During 8 weeks working memory stimulation (Baduk), we assessed the changes in attention symptoms, cognitive function, and EEG pattern in drug naïve children with ADHD.
Methods
Eleven drug naïve children with ADHD and eighteen age and sex matched healthy comparison subjects were recruited. During 8 weeks, both ADHD without medication and healthy children were asked to play go (Baduk) for four hours/day with instructor of the art of Baduk. Before and at the end of 8 weeks playing go period, clinical symptoms, cognitive functions, and brain EEG were assessed with Dupauls’ ADHD scale (ARS), digit span, Trail making test-B, and 32-channel TC EEG system (B.E.S.T medical systems, Wien, Austria).
Results
There were significant improvements of ARS total score ($z=2.93$, $p<0.01$) and inattentive score ($z=2.94$, $p<0.01$) in children with ADHD. However, there was no significant change in hyperactivity score ($z=1.33$, $p=0.18$). There were improvement of digit total score ($z=2.60$, $p<0.01$; $z=2.06$, $p=0.03$), digit forward ($z=2.21$, $p=0.02$; $z=2.02$, $p=0.04$) in both ADHD and healthy comparisons. In addition, ADHD children showed decreased time of TMT-B ($z=2.21$, $p=0.03$). While healthy comparison subjects showed increased relative high-beta right ($z=2.42$, $p=0.02$) and decreased relative theta left ($z=2.43$, $p=0.02$), relative theta right ($F=2.42$, $p=0.02$), Theta/alpha left ($z=3.88$, $p<0.01$), Theta/alpha right ($z=3.88$, $p<0.01$), Theta/beta left ($z=3.88$, $p<0.01$), and Theta/beta right ($z=3.88$, $p<0.01$), children with ADHD showed decreased Theta/alpha left ($z=3.32$, $p<0.01$), Theta/alpha right ($F=3.32$, $p<0.01$), Theta/beta left ($z=3.32$, $p<0.01$), and Theta/beta right ($z=3.33$, $p<0.01$). The change of Theta/beta right in children with ADHD was greater than that in healthy comparisons ($F=4.45$, $p=0.04$). The change of right Theta/beta was positive correlation with ARS-inattention score and negative correlation with Digit forward score ($r=-0.65$, $p=0.01$) in children with ADHD ($r=0.44$, $p=0.03$).
Discussion
These results indicate that cognitive endeavor could activate hypoarousal brain in children with ADHD in terms of cognitive and brain activity pattern.
Education meaning
1. In accordance with previous reports, elevated theta power and reduced relative alpha and beta, and theta/beta ratio supported hypoarousal theory for ADHD.
2. Cognitive endeavor could activate brain in children with ADHD.

NR5-24
EFFECTS OF ELECTROCONVULSIVE THERAPY(ECT) ON A PATIENT WITH TEMPEROMANDIBULAR JOINT DISORDER(TMJ)

Lead Author: Christopher Montes, M.D.
Co-Author(s): Giovanni Caracci, MD
Ye-Ming Sun, MD PhD

SUMMARY:

OBJECTIVES:

To explore the effect of electroconvulsive therapy on temperomandibular joint disorders.

BACKGROUND:
Electroconvulsive therapy (ECT) is a well-known treatment for a variety of psychiatric disorders including catatonia, depression, mania, psychosis and others. There have been many articles published on the safety of ECT and its adverse effects which can range from memory loss to myalgia (1). During ECT, an electrical current elicits a seizure and activates muscles across the temperomandibular joints. A bite blocker is often used to prevent injury. The effect of ECT on patients with temperomandibular joint disorder (TMJ) is not well known in the current literature. In this case report, we observed a patient with a pre-existing TMJ disorder who had received ECT treatment.

METHODS:
A literature search was conducted on Cochrane, Medline and Pubmed using the key words electroconvulsive therapy and temperomandibular. A comparison between the pre- and post-ECT TMJ scales were calculated through the TMJ scale website (5).

CASE REPORT:
Ms. S is a 35yo Caucasian woman with a history of bipolar disorder, TMJ and migraines who was referred for ECT treatment after she had been complaining of mixed symptoms, paranoia and passive suicidality over the last 2 months. She had been treated by several psychiatrists in the past and placed on multiple psychotropics including antidepressants, antipsychotics and mood stabilizers with little reported benefit. On her initial evaluation, she had been taking clonazepam, lithium and nefazodone. Her physical exam revealed an age appropriate, obese but otherwise healthy woman. The patient was provided with a pre- and post-ECT assessment scale of her TMJ symptoms. Over a month's time, the patient had received multiple treatments of ECT which improved her depression but had affected symptoms of her TMJ as rated by the scale. Specifically, there were changes in the pain report, palpation pain, perceived malocclusion and joint dysfunction items. Some TMJ symptoms improved while others had worsened. The changes were modest at best and the overall global scoring of her TMJ disorder remained the same.

CONCLUSION:
This case indicates that ECT has not worsened TMJ syndromes overall. However, ECT affects various aspects of TMJ symptoms which are so minor that they do not interfere with the course of treatment. The authors understand that this is a single case report. Further research is required to make a clear conclusion regarding the link between ECT and TMJ disorders.

NR5-25
EFFICACY OF CORRECTIONAL TELEPSYCHIATRY: IS THERE EVIDENCE?

Lead Author: Jack Yen, M.D., M.P.H.

SUMMARY:
Correctional telepsychiatry is increasingly being used by correctional institutions over the last several years. The reasons included: cost-saving, lack of providers, and decreasing risk exposures. Due to its prevalence, it is viewed to deliver the same standard of care as prisoners being seen in-person. A literature review was conducted in order to assess whether enough research has been done to demonstrate its efficacy in care delivery. A search conducted in October, 2012 using various terms on Pubmed using key search terms such as "Correction institutions, telepsychiatry, and criminal rehabilitation," to see if it would yield articles regarding the topic. The results showed very few articles have been written about this topic. The current studies available have been limited in population and scope. Therefore, studies are needed to determine if the same standard of care can be delivered. If studies were designed to study this topic, what design studies should be used to determine whether correctional telepsychiatry can be used in providing adequate standard of care in correctional institutions?

NR5-26
EMOTIONAL AND ATTENTIONAL CONTROL IN BORDERLINE PERSONALITY DISORDER: INSIGHTS FROM ACOUSTIC STARTLE MODIFICATION

Lead Author: Mushfiqur Rahman, M.D.
Co-Author(s): Albert B. Poje, Ph.D.
Wynnelena C. Canio, M.D.

SUMMARY:
Abstract: BACKGROUND: Acoustic startle eyeblink modification is a psychophysiological measure that can assess both emotional and attentional processing. In the present study, we examined emotional processing and attentional control using affective modulation of startle and attentional-modification of prepulse inhibition (PPI) in a sample of patients with Borderline Personality Disorder (BPD). Because patients with BPD experience emotional dyscontrol and can exhibit poor regulation of negative emotions, it was hypothesized that patients may have difficulty suppressing emotional responses to negative images and eliciting attentional-modification of PPI. METHODS: Patients were verified to have BPD via a structured clinical interview using the Structured Clinical Interview for DSM-IV Axis II Disorders (SCID-II) and engaged in two picture viewing conditions (passive and regulated) using a standardized affective picture set (IAPS; Lang et al., 2008) to assess affective modulation of startle, and a tone listening task to index attentional-modification of PPI (e.g., Filion and Poje, 2003). RESULTS: Startle eyeblink data were converted to standard scores (T scores and percent-change scores) and submitted to General Linear Model Repeated Measures ANOVAs. Results revealed main effects of Condition ($F(1,3) = 30.47$, $p < .05$), an interaction of Picture and Condition ($F(2,6) = 6.92$, $p < .05$), and an interaction of Picture, Lead Interval and Condition ($F(2,6) = 6.94$, $p < .05$) indicating that BPD patients demonstrated evidence of emotional regulation to negative pictures at longer relative to shorter lead intervals (6000 ms vs. 2500 ms). Results also included a main effect

of Trial Block on PPI ($F(1,6) = 18.18$, $p < .05$), demonstrating that PPI increased over successive trials. However, evidence for attentional-modification of PPI was not found. CONCLUSIONS: The results of the present study suggest that BPD patients demonstrate problems with the early stages of emotional regulation and limited attentional control of incoming sensory stimuli. We hypothesize that these findings are related to the cognitive neurophysiology underlying BPD.

NR5-27
ENVIRONMENTAL RISK FACTORS ASSOCIATED WITH ATTENTION-DEFICIT/HYPERACTIVITY DISORDER

Lead Author: Sewoong Kim
Co-Author(s): Hyun-Jung Park,a MD; Soyoung Irene Lee,a MD, PhD; Han-Yong Jung,a MD, PhD; Shin-Gyeom Kima MD; Kyoung-Sae Na a MD; Seung-Hwan Sung,b MD; Se-Hoon Shim,b MD, Young-Jun Kwon,b MD, PhD; Hee-Yeun Jeong,b MD, PhD. Hwa-Young Lee,b MD, PhD;

a Department of Psychiatry, Soonchunhyang University Bucheon Hospital, College of Medicine, Soonchunhyang University, Gyeonggi-Do, Korea.
b Department of Psychiatry, Soonchunhyang University Cheonan Hospital, College of Medicine, Soonchunhyang University, Choongchungnam-Do, Korea.

SUMMARY:
Background
Previous studies related ADHD indicated that environmental risk factors, such as cluster around the child's pregnancy, birth and parental factors, account for 20-30% of phenotypic variability in ADHD symptoms. These environmental risk factors have value for public health implications, because they are preventable, in contrast with genetic factors.
Numerous risk factors for ADHD have been examined in Korea and elsewhere, but the results are conflicting. In this study, therefore, we evaluated the environmental risk factors in rigorously diagnosed children and adolescents with ADHD, and compared the results with those from age- and sex-matched normal controls.

Methods
262 children and adolescents aged 6-18, with inattention, hyperactivity or impulsivity, who visited the Department of Psychiatry at Soonchunhyang University Bucheon Hospital from October 2005 to April 2012, were interviewed for the diagnosis of ADHD. DSM-IV symptoms criteria for ADHD were assessed using the Schedule for Affective Disorders and Schizophrenia for School-Age Children - Present and Lifetime Version (K-SADS-PL). Risk factors were evaluated using a self-rating questionnaire for parents. This questionnaire is composed of three subcategories: pregnancy-delivery-perinatal risk factor, family environment, and family psychiatric history.
To estimate the significant risk factors for ADHD, multivariable logistic regression models were constructed for each subcategory variable. Then, statistically significant variables in the preliminary multivariable model were included in the second multivariable logistic regression. Odds ratios and 95% confidence intervals for ADHD were calculated, using second logistic regression analysis. All analyses were performed controlling age and sex.

Results
In total, 262 children and adolescents with ADHD (n = 139) and normal controls (n = 123) were recruited. ADHD groups were significantly more likely to be male and younger, compared to the control group. In the preliminary multivariable analysis, six variables were found to be statistically significant: unplanned pregnancy, maternal mental problem during pregnancy, use of forceps during labor, dystocia, low socioeconomic status, and family history of alcohol-related disorder. In the second multivariable logistic regression, a significant positive association was found between ADHD and mental problem during pregnancy (OR 5.76, 95% CI 1.32-25.14), dystocia (OR 4.79, 95% CI 1.37-16.73), use of forceps during labor (OR 3.75, 95% CI 1.45-9.66), and unplanned pregnancy (OR 1.97, 95% CI 1.98-3.97).

Conclusion

In this study, obstetrical complication, such as the use of forceps during delivery or dystocia, were associated with the development of ADHD. In addition, unplanned pregnancy or maternal mental problem during pregnancy may also directly or indirectly influence the risk for the disorder. Further study should prove the link between the identified environmental risk factors and ADHD.

NR5-28
EXPLORING THE RELATIONSHIP BETWEEN PHYSICAL, SEXUAL OR INTIMATE PARTNER VIOLENCE AND PERINATAL MOOD AND ANXIETY DISORDERS

Lead Author: Kimberly Shapiro, M.D.
Co-Author(s): Emily Dossett, MD

SUMMARY:
BACKGROUND: The link between trauma and depression has been established in the literature; however the association with Perinatal Mood and Anxiety Disorders (PMADs) has been inconclusive. At LAC+USC in the Reproductive Psychiatry Clinic, the population of women presenting with PMADs appeared to have an unusually high rate of sexual and/or physical abuse in their childhood, in addition to high rates of interpersonal violence in their romantic partner relationships. PMADs is an important public health issue, as it can cause and/or be associated with significant morbidity among mothers, triggering adverse effects on their children.

OBJECTIVES: To review literature on the correlation between early life and/or current physical or sexual trauma, and interpersonal violence, current or past, and Perinatal Mood and

Anxiety Disorders (PMADs) in pregnant women. In addition, to highlight the relationship between trauma history and rates of PMADs in pregnancy in a cohort of pregnant women referred for psychiatric treatment to the Maternal Wellness Clinic at LAC+USC, and determine if our original data fills an existing gap in the field.

METHODS: An observational study was performed using original data from a cohort of women presenting for psychiatric evaluation at a Reproductive Psychiatry clinic (n=65). Subjects were 18 years or older, of any gestational age. Patients undergoing psychiatric intake were asked about a history of sexual or physical abuse, and history of interpersonal violence, both past and current, and evaluated for Axis I and II disorders. In conjunction, a literature review was performed regarding the association of a history of violence with the development of PMADs during the gestational period.

RESULTS: The data from the LAC+USC Maternal Wellness Clinic showed a positive association between a patient's trauma history, including sexual or physical abuse, or interpersonal violence, and the development of PMADs .This clinic population has unique psychosocial characteristics that may contribute to the high levels of associated depression in pregnancy, including a largely Hispanic, immigrant population with English not as the primary language. No previous study to date has demographic data that match these subjects.

CONCLUSIONS: While PMADs is a common complication of women in childbearing age, it is underrepresented in the literature, as many women may not seek help for psychiatric issues during the critical peripartum period. Our data suggests that training needs to focus not only on diagnosis and treatment of PMADs, but also on assessment and intervention to deal with past trauma. Pre-pregnancy screening and evaluations early in prenatal care for abuse history will help to identify patients that are at risk for mood disorders. In addition, further collaborative studies may highlight outcome data including birth complications and neurobehavioral functioning of the infants born to mothers affected by trauma and resulting depression.

NR5-29
FACING METABOLIC SYNDROME: A REVIEW OF NEW FDA-APPROVED WEIGHT LOSS MEDICATIONS LORCASERIN AND PHENTERMINE-EXTENDED RELEASE TOPIRAMATE

Lead Author: Venkata B. Kolli, M.B.B.S.
Co-Author(s): Dr Durga Prasad Bestha
Dr Mojgan Amani

SUMMARY:

At the end of this session participants will be familiar with
1. Indications and use of new FDA approved weight loss medications - lorcaserin and phentermine-topiramate.
2. Pertinent literature for psychiatrists on both these two new medications

Up to 2/3rds of US population is estimated to be either overweight or obese. The risk is higher in the psychiatric patients with atypical antipsychotic use. Along with their use in psychosis, second-generation antipsychotics are also used in depression, bipolar disorder and anxiety disorders, increasing the risk of metabolic syndrome. Treating metabolic syndrome reduces cardiovascular risk. Even though healthy life style modification- dietary changes and exercise, and change of offending medication are the first line treatments for metabolic syndrome, the results are often discouraging. Use of pharmacotherapy for weight loss might have utility in this population.

Lorcaserin is a selective 5-hydroxytryptamine (5-HT2C) receptor agonist. It is thought to act by stimulating the production of proopio-melanocortin that promotes satiety. The medication is used at 10 mg twice a day and should be stopped if 5% weight loss is not achieved by week 12. Phase 3 studies show weight loss being sustained up to 1 year with this medication. With it being a serotonergic drug, lorcaserin increases the risk of serotonin syndrome. This novel agent has also been implicated in hallucinations, euphoria and dissociation with supra-therapeutic doses. Psychiatrists should be aware of this medication causing hyperprolactinemia especially whilst using with antipsychotic medication. The effectiveness of this medication in combination with psychotropic agents needs to be assessed. All 3 studies show a greater than 5% weight reduction in more than 35% of patients on larcoserin.

Phentermine and extended release topiramate combination is another promising agent. Phentermine is a phenyl-tertiary-butylamine, a stimulant and topiramate is an antiepileptic, both promote weight loss. The medication is started on 3.75/23mg dose a day for 14 days and then increased to 7.5/46mg and if necessary to a maximum dose of 15mg/92mg. Most serious risk of this novel combination is teratogenic causing orofacial defects. Only two studies have been published on phenetramine-topiramate combination, and they show at least 60% of treatment arm subjects loosing more than 5% pretreatment weight. These effects seem to be maintained with a year on treatment.

Conclusion: Studies so far have shown them to be as effective promoting weight loss ranging from 5.8% -10.9% of baseline weight. These pharmacological agents might help reduce the impact of metabolic complications of second-generation antipsychotics.

References

Goldenberg MM. Pharmaceutical approval update. P T. 2012 Sep;37(9):499-502.

Colman E, Golden J, Roberts M, Egan A, Weaver J, Rosebraugh C. The FDA's assessment of two drugs for chronic weight management. N Engl J Med. 2012 Oct 25;367(17):1577-9.

NR5-30
GENETIC MODERATORS OF TREATMENT RESPONSE TO METHYLPHENIDATE AND GUANFACINE IN CHILDREN AND ADOLESCENTS WITH

ADHD

Lead Author: Karyn S. Mallya, B.A.
Co-Author(s): Allyson P. Mallya, Christopher P. Laughlin, James J. McGough, Sandra K. Loo, Robert M. Bilder, Erika L. Nurmi, James T. McCracken.

SUMMARY:
Background: Methylphenidate and guanfacine are effective treatments of hyperactive and inattentive symptoms associated with ADHD; however, variability in individual treatment response is substantial. Pharmacogenetic influences may explain this variability and facilitate improved treatment matching. We tested genetic variation in monoamine drug targets as potential moderators of treatment outcomes in a randomized, double-blind, placebo-controlled trial of dexmethylphenidate (d-MPH) and guanfacine for pediatric ADHD. Methods: Subjects (n=202) were participants in Project I of the NIMH CIDAR Translational Research to Enhance Cognitive Control (TRECC) Center at UCLA, a study which evaluated the short-term efficacy of d-MPH and guanfacine combination pharmacotherapy against standard stimulant or guanfacine monotherapy on both symptom and cognitive endpoints. Dopaminergic and adrenergic drug targets were tested for complete common variation, including dopamine (DA) receptors D1-D5 (DRD1, DRD2, DRD3, DRD4, DRD5), alpha-2 adrenergic receptor 2A (ADRA2A), HCN1 potassium channel, and catabolic enzymes monoamine oxidase A (MAO-A) and B (MAO-B). Variants in the DA transporter (SLC6A3), norephinephrine transporter (SLC6A2) and catabolic enzyme catechol-o-methyltransferase (COMT) were selected based on known functional and previously associated variants. Results: In children receiving guanfacine, functional alleles in DRD1 (rs686) and DRD2 (rs2075654) influenced treatment response ($p<0.0001$). d-MPH response was moderated by two SNPS in DRD2 and a single ADRA2A variant. In both groups receiving d-MPH, either alone or in combination with guanfacine, the minor (low expression) allele of the DRD2 Taq1A variant (rs1800497) was associated with an allele dosage-dependent improvement ($p=0.001$). Common allele carriers of a synonymous SNP (His313His, rs6275) demonstrated an 80% response rate, whereas none of the homozygotes for the minor allele met responder criteria ($p=0.0001$). Furthermore, haplotype analysis of these 2 DRD2 SNPs showed differential effects on treatment response ($p=0.0017$). Finally, an ADRA2A promoter variant (rs521674) was associated with poor d-MPH response for subjects homozygous for the minor allele ($p= 0.0004$). While no HCN1 SNPs achieved corrected significance, 3 variants were nominally associated with guanfacine response. Discussion: In our dataset, common genetic variation in dopaminergic and adrenergic receptors moderated treatment response to ADHD drug therapies. While monoaminergic candidate genes have previously received support in small studies, our study benefits from a randomized, double-blind, placebo-controlled design, a moderate size treatment sample, examination of repeated measures, and an exhaustive genetic approach. Our findings hold promise for future personalization of ADHD treatment algorithms and warrant replication in larger samples and prospective treatment studies.

NR5-31

GENETIC VARIATION IN SEROTONERGIC PATHWAYS INFLUENCES ANTIPSYCHOTIC-INDUCED WEIGHT GAIN IN CHILDREN WITH AUTISM SPECTRUM DISORDERS

Lead Author: Allyson P. Mallya, B.A.
Co-Author(s): Emma H. Gail, Christopher P. Laughlin, James T. McCracken, Erika L. Nurmi and the RUPP Autism Network.

SUMMARY:
Background: While antipsychotics are effective in treating aggression and irritability in children with autism, weight gain is a common adverse effect associated with significant morbidity and reduced treatment adherence. Variability in antipsychotic-induced weight gain (AIWG) is substantial and may be explained by differences in genetic background. Because serotonergic signaling pathways have long been suspected to contribute to AIWG, especially via the serotonin 2C receptor (HTR2C), we examined the impact of genetic variation in serotonin signaling on weight gain in the NIMH RUPP Autism Risperidone randomized, controlled trials. Methods: 225 children and adolescents with autism-related aggression received 8 weeks of risperidone treatment. Weekly measures of weight were obtained. Complete common variation in the serotonin transporter (SLC6A4) and serotonin 2C receptor (HTR2C) was captured and analyzed for association with AIWG. Results: Three of the four tagging variants in SLC6A4 influenced AIWG in our sample, including intronic SNPs in areas of active chromatin involved in enhancer-binding: rs4251417 ($p<0.0005$), rs12150214 ($p<0.0005$), and rs140700 ($p=0.001$). One 3' intronic HTR2C variant (rs6644093) was significantly associated with AIWG ($p<0.005$) and a 5' haplotype was protective against AIWG. Conclusion: Our data support a role for genetic variation in serotonergic systems in AIWG. While our results are limited by a modest sample size, results survived correction for multiple testing (corrected significance threshold $p<0.005$). Our pediatric sample benefits from large outcome effect sizes, repeated measures analyzed, comprehensive gene coverage, and a largely treatment naïve sample. The identification of pharmacogenetic moderators of adverse events such as these promises to guide treatment algorithms and the design of novel therapeutics.

NR5-32

GRAY MATTER ABNORMALITIES IN PATIENTS WITH FIRST-EPISODE MANIA, WITH AND WITHOUT A HISTORY OF A PREVIOUS DEPRESSIVE EPISODE

Lead Author: Nadeesha L. Fernando, B.Sc., M.D.
Co-Author(s): Tae Hyon Ha, David J. Bond, Donna J. Lang, William G. Horner, Raymond W. Lam, Lakshmi N. Yatham

SUMMARY:
Introduction: There is growing evidence that structural alterations exist in the brains of patients with bipolar disorder. In

patients with first-episode mania, the magnitude of these alterations appears to be smaller than in patients with a longer history of bipolar illness. However, about 60% of patients with first episode mania have a history of previous depressive episodes and it is currently unknown if magnitude of structural brain changes is different in those with and without a history of depression compared with healthy controls. The objective of this study therefore was to use 3T MRI to ascertain structural brain changes in these two subgroups of first episode manic patients in comparison to healthy controls.

Material and methods: Magnetic resonance images from 57 patients who recently recovered from first-episode mania (31 with a previous depressive episode and 26 without) and 57 healthy controls were acquired and processed using voxel-based morphometry. The processed gray matter tissue images were compared between depressed vs controls, non-depressed vs controls, and depressed vs non-depressed to ascertain gray matter alterations.

Results: Both depressed and non -depressed FE patients showed reductions in gray matter concentration (5%) in right and left medial frontal gyrus and anterior cingulate regions . Although reductions in gray matter concentration were also seen in insular region in both groups relative to controls, the reduction was only 0.05% in the non-depressed group while it was 4.1% to 5.2% in the depressed group.

Conclusion: In conclusion, FE patients with previous depressive episodes demonstrated more extensive gray matter reductions in the right ventral-orbital prefrontal cortex, bilateral ACC, and bilateral posterior insular cortex. This suggests, that either depressive episodes are associated with unique brain structural changes or previous depressive episodes lead to more extensive brain structural changes.

NR5-33
HEALTH DISPARITIES IN DEPRESSIVE SYMPTOMS AND ANTIDEPRESSANT USE: RESULTS FROM THE 2009-10 NHANES

Lead Author: Margaret Ege, M.D.
Co-Author(s): Erick Messias, MD; Lewis P. Krain, MD; Puru Thapa, MD

SUMMARY:

Introduction: The percentage of ethnic and racial minorities in the United States is increasing, and over the next several years, is expected to comprise a significant portion of the older adult population. Previous research has raised concerns regarding health disparities among various racial minorities compared to Caucasians. With the increasing diversity of the U.S. population, this issue can impact mental health treatment. This, combined with the high prevalence of depressive symptoms in the geriatric population, necessitates the timely diagnosis and appropriate treatment of depression in all older adults, especially minorities, as health disparities are particularly common in this group.

Methods: Data from the 2009-2010 National Health and Nutrition Examination Survey (NHANES) were used to estimate the prevalence of depression and rates of antidepressant use in individuals sixty years of age and older (n=2,063) by ethnicity. The diagnosis of depression was made using self-reported symptoms measured by the nine-item, Patient Health Questionnaire depression scale (PHQ-9). As recommended by the creators of the scale, a cut off score of 10 was used to define depression.

Results: The study sample comprised 2,063 adults, aged 65 years and older, of which 54.8% were Caucasians, 17.2% African Americans, 15.1% Mexican Hispanics, 8.6% other Hispanics and 4.2% other races. Of the total sample, 5% (95% CI 4.2-6.0%) met criteria for major depression. Depression prevalence (95% CI) varied by race: Caucasians 4.4% (3.5-5.7%), African Americans 4.8% (2.2-10.1%), other races 5.1% (1.5-16.1%), other Hispanics 9.2% (5.1-16.1%), and Mexican Hispanics 13.3% (10.5-16.8%). Use of antidepressants varied by race: Caucasians 14.3% (11.6-17.4%), African Americans 10% (6.7-14.8%), other Hispanics 10% (7.4-13.4%), other races 9.4% (3.7-22%), and Mexican Hispanics 5.5% (4.3-7.1%). The prevalence of depression was significantly higher in Mexican Hispanics than in Caucasians (Odds Ratio 3.3, 95% CI 2.1-5.3; $p<0.001$) and antidepressant use was significantly lower (Odds Ratio 0.34, 95% CI 0.23-0.52; $p<0.001$), adjusted for gender and age.

Discussion: These results suggest a significant mental health disparity in the prevalence and treatment of depression in older Mexican Hispanics, when compared to their Caucasian peers. With the rates of depression three times greater and treatment nearly three times less in Mexican Hispanics as compared to Caucasians, these data suggest that improvement in the recognition and treatment of depression in this population is paramount.

NR5-34
HEART RATE VARIABILITY: A USEFUL INDICATOR OF CLINICAL RESPONSE TO ESCITALOPRAM TREATMENT IN PANIC DISORDER

Lead Author: Yunhye Oh, M.D.
Co-Author(s): Jae-Hon Lee, MD ,Jungyoon Heo MD, Bum-Hee Yu, MD, PhD

SUMMARY:

Panic disorder is one such condition with prominent sympathetic autonomic symptoms. Heart rate variability(HRV) has been considered as a noninvasive probe of the autonomic nervous function, as represented by its cumulative effect on sinus node automaticity. This study aimed to investigate changes of heart rate variability before and after pharmacotherapy in panic disorder and examine if HRV can be a useful indicator reflecting clinical response to pharmacotherapy in panic disorder. The study subjects were composed of 50 normal healthy controls and 66 panic disorder patients who met the DSM-IV-TR criteria for panic disorder with or without agoraphobia. They performed the Hamilton rating scale for depression (HAM-D), Hamilton rating scale for anxiety (HAM-A), panic disorder severity scale (PDSS) and heart rate

variability (HRV) measurement. They were prescribed escitalopram as a primary anti-panic drug for 12 weeks and use of benzodiazepines was discontinued within 4 weeks after starting treatment. The study subjects were composed of 50 normal healthy controls and 66 panic disorder patients who met the DSM-IV-TR criteria for panic disorder with or without agoraphobia. They performed the Hamilton rating scale for depression (HAM-D), Hamilton rating scale for anxiety (HAM-A), panic disorder severity scale (PDSS) and heart rate variability (HRV) measurement. They were prescribed escitalopram as a primary anti-panic drug for 12 weeks and use of benzodiazepines was discontinued within 4 weeks after starting treatment.This study suggests that HRV can be used as a reliable physiological indicator to reflect treatment response in panic disorder.

NR5-35
HOUSING TRAJECTORIES AMONG AN URBAN, HOMELESS POPULATION WITH MENTALLY ILLNESS

Lead Author: Jarrell Collin Meier, M.D.
Co-Author(s): Matthew Lezama
Christina Mangurian, MD
James Dilley, MD
Martha Shumway, PhD

SUMMARY:

The United States Department of Housing and Urban Development (HUD) estimates that roughly 636,000 people were homeless on a single night in January 2011 (1). Additionally, nearly one-quarter (24.9%) of sheltered individuals were reported to have severe mental illness (2). The 2011 San Francisco Homeless Point-In-Time Count identified 6,455 homeless individuals living on the streets and in the shelters of San Francisco (3). Due largely to its location, the South of Market Mental Health Clinic (SOMMHC) serves a diverse population of clients and is unofficially seen to be the primary homeless mental health clinic for the city. There is scant literature pertaining to interventions that address the intersection of homelessness, mental illness and race (4). Additionally, no housing trajectory studies have been conducted that take into account the influence of diagnosis, demographic variables, and follow-up with severely mentally ill homeless individuals at SOMMHC.

Methods: Data were collected through a retrospective chart review of 117 individuals who first presented to SOMMHC between January 2011 and December 2011. Progress notes were examined for one year after intake to assess each individual's monthly housing status as well as their utilization of services. Demographic information including race, gender, age, education level, and insurance status were recorded with each individual as were the Axis I-III diagnoses and Global Assessment of Function (GAF) scores. Data were then analyzed to identify the trajectory of housing status over time. Chi-square analyses and t-tests were used to determine how individual characteristics and utilization of services affected housing trajectories.

Results/Conclusion:
The rates in which mentally ill homeless individuals obtain housing will be identified in this study. Core demographic variables, diagnosis and the documented level of follow-up with therapists, case managers, and medical doctors are assumed to contribute to this trajectory at SOMMHC.

References:
1. United States Department of Housing and Urban Development Annual Homeless Assessment Report to Congress 2011.
2. United States Department of Housing and Urban Development Annual Homeless Assessment Report to Congress 2009.
3. San Francisco Point-In-Time Count and Survey Executive Summary, appliedserviceresearch.org, 2011.
4. Stegiopoulos V, O'Campo P, Gozdzik A, Jeyaratnam J, Corneau S, Sarang A, Hwang S. Moving from rhetoric to reality: adapting Housing First for homeless individuals with mental illness from ethno-racial groups. BMC Health Serv Res. 2012 Oct 2;12(1):345.

NR5-36
IMPACT OF SUICIDALITY WARNING ON PRESCRIPTION PATTERNS OF ANTIDEPRESSANTS

Lead Author: Saurabh Gupta, D.P.M., M.B.B.S.
Co-Author(s): Kenneth Gersing, Bruce Burchette, Tal Burt

SUMMARY:

INTRODUCTION
In October 2004 the FDA issued a Black-Box warning on risk of suicidality in children and adolescents receiving antidepressants. The warning was followed by reports of changes in antidepressant prescription patterns in pediatric and adult patients. Reports remain inconclusive, however, regarding the impact and magnitude of the changes. In addition, most reports were based on pharmacy level data. We examined a large, academic, physician database for impact of the warning on antidepressant prescriptions in patients with Major Depressive Disorder (MDD) and Anxiety Disorders.
METHODS
We analyzed Clinical Research Information System (CRIS) data, a large psychiatry electronic database, from Duke University Medical Center and University of Texas at Galveston for associations between Pre- and Post-Black Box warning periods and antidepressant prescription rates. Bivariate relationships were assessed between pediatric (<18 years) and adult age groups and between MDD and Anxiety Disorders. This was followed by multivariate logistic analyses.
RESULTS
13033 patients met inclusion criteria. 8084 patients were diagnosed with MDD (62%) and 4949 (38%) with Anxiety Disorders. Pediatric patients constituted 19% of the population. 69% patients received prescription for an antidepressant, of which 21% received fluoxetine.
In bivariate analysis, there was a significantly higher percentage of antidepressant prescription in Pre- versus Post-Black Box periods (79%, 66%, respectively; $p<0.0001$). Adults

were less likely to be prescribed an antidepressant in Post-Black Box period (80% vs. 70%; p<0.0001), but pediatric patients were not (p= 0.3). Both MDD (82% vs. 75%; p<0.0001) and Anxiety Disorders (72% vs. 54%; p<0.0001) patients experienced lower level of antidepressant prescription in Post-Black Box period. After the Black Box warning, overall prescriptions of fluoxetine increased (17% vs. 23%; p<0.0001) with pediatric patients experiencing a 16% to 51% increase (p<0.0001). Logistical modeling showed in Post-Black Box period greater likelihood of antidepressant prescription in pediatric patients when compared with adults (AOR 1.51; 95%CI 1.07-2.14; p=0.02) and in MDD as compared with Anxiety Disorders (AOR 1.34; 95%CI 1.08-1.67;p=0.01). Pediatric patients were more likely than adults to receive fluoxetine during the Post-Black Box period (AOR 5.89; 95%CI 3.33-10.44; p<0.0001).
CONCLUSION
In Post-Black Box warning period, reduction in antidepressant prescription rates reflect reduction in adult prescriptions. There was no significant reduction in the pediatric population. Patients with Anxiety Disorders were less likely than MDD patients to receive an antidepressant. Pediatric patients were significantly more likely than adults to receive fluoxetine. Our observations demonstrate that psychiatrists heed regulatory warnings but exert professional independence and discrimination when applying recommendations to clinical practice.

NR5-37
INCREASED ACTIVATION OF SYNAPSIN 1 AND EXTRACELLULAR SIGNAL-REGULATED KINASE IN THE AMYGDALA OF MATERNAL SEPARATION RATS

Lead Author: Won Sub Kang, M.D., Ph.D.
Co-Author(s): Hae Jeong Park, Jong Woo Kim.

SUMMARY:

Introduction: Early life stress (ELS) causes alterations in emotionality and anxiety levels, and increases the risk for development of psychiatric problems, such as depression or anxiety. Clinical and experimental evidence has suggested that these alterations are associated with amygdala activity.
Methods: Here, we identified the alteration of molecules in the amygdala using maternal separation (MS; pnd 14-21) rats through gene expression and DNA methylation microarray analysis, and studied the involvement of candidate genes using western blot and immunohistochemistry analysis.
Results: Through microarray analysis, in the amygdala of MS rats, we found the downregulation of mRNA expression of synapsin 1 (Syn1) gene with hypermethylation of its transcription start site (TSS), and the alterations of mRNA expressions of Syn1 activation-related kinase genes such as v-src sarcoma viral oncogene homolog (Src), cyclin-dependent kinase 5 (Cdk5), protein kinase gamma 1 (Prkg1), and mitogen-activated protein kinases (Mapks) with change of TSS methylation. In addition, MS increased not only Syn1 phosphorylation and in particular at the phosphorylation sites by extracellular signal-regulated kinase (Erk)/Mapks, but also Erk phosphorylation in the amygdala. Furthermore, double immunofluorescence staining showed that MS could elevate the phospho-Erk immunoreactivity (IR) in presynpases, especially excitatory presynapses
Conclusions: These findings indicate that presynaptic ERK signaling acts via Syn1 to modulate neurotransmitter release, especially excitatory neurotransmitters, in the amygdala of MS rats.

NR5-38
INCREASED DEPRESSION AND COMORBIDITY, DECREASED PHARMACOTHERAPY, BUT SIMILAR SUICIDE ATTEMPT RATES IN PATIENTS WITH BIPOLAR II COMPARED TO BIPOLAR I D

Lead Author: Natalie Portillo, M.A.
Co-Author(s): Farnaz Hooshmand MD, Shefali Miller MD, Jennifer Dore MD, Po W. Wang MD, Shelley J. Hill MS and Terence A. Ketter MD

SUMMARY:

Objective:
To identify unfavorable illness characteristics in outpatients with bipolar II disorder (BPII) compared to bipolar I disorder (BPI) upon entry to a tertiary care bipolar disorder (BD) clinic.

Methods:
Patients with BPI and BPII referred to the Stanford University Bipolar Disorder Clinic during 2000-2011 and assessed with the Systematic Treatment Enhancement Program for BD (STEP-BD) Affective Disorders Evaluation were compared with respect to demographics and illness characteristics.

Results:
Among 505 BD outpatients (mean±SD age 35.5±13.1years; 58.2%female; 48.5% Type I, 41.8% Type II; with illness duration 17.6 ±13.3 years; Clinical Global Impression for Bipolar Disorder-Overall Severity score 3.9±1.5, and taking 2.6±1.7 medications), patients with BPII compared to BPI more often had comorbid anxiety disorders (72.2% vs. 59.6%, df = 1, Chi-Square = 8.7, p = 0.0033) and personality disorders (15.7% vs. 8%, df = 1, Chi-Square = 6.9, p = 0.012), as well as current syndromal/subsyndromal depressive symptoms (41.5% vs. 32.7%, df=1, Chi-Square=4.3, p=0.012), and a had a significantly higher Clinical Global Impression for Bipolar Disorder Overall Illness Severity (4.1±1.4 vs. 3.7±1.5, df = 498, t = 3.0, p = 0.0033), in spite of less often having prior psychosis (14.5% vs. 64.7%, df = 1, Chi-Square = 131.5, p < 0.0001), or psychiatric hospitalization (10.2% vs. 68.8%, df = 1, Chi-Square = 178.9, p < 0.0001), and a similar rate of prior suicide attempt (28.8% vs. 31.8%, df = 1, Chi-Square = 0.5, p =0.50). Patients with BDII compared to BDI were less likely to be taking any prescription psychotropic (80.4% vs. 92.2%, df = 1, Chi-Square = 14.9, p =0.0001), including the mood stabilizers lithium (20.9% vs. 31.8%, df = 1, Chi-Square = 7.7, p = 0.0062) and valproate (14.3% vs. 32.7%, df = 1, Chi-Square = 23.8, p < 0.0001), as well as the second-generation antipsychotics quetiapine (6.9% vs. 13.5%, df = 1, Chi-Square = 6.0, p = 0.0177), olanzapine (7.3% vs. 19.2%, df = 1, Chi-Square = 18.5, p < 0.0001), risperidone (2.6% vs. 11.7%, df = 1, Chi-Square = 15.5, p = 0.0001), and aripiprazole (3.5% vs. 8.6%, df = 1, Chi-Square = 5.9, p =

0.0224). Although patients with BPII compared to BPI were more than twice as likely to be unmedicated, restricting the above analyses to medicated patients yielded a similar pattern of findings.

Conclusion:
Further study is warranted to determine the extent to which increased depression and comorbidity in BPII compared to BPI is related to the disorder itself versus its treatment, and whether suicide attempt rates differ between these illness subtypes..

Support:
This research was conducted with support from the Pearlstein Family Foundation.

NR5-39
INSOMNIA COMORBID OR UNDERDIAGNOSED PRIMARY CONDITION ?

Lead Author: Vinita Prasad, M.B.B.S.

SUMMARY:
Insomnia is a very common symptom associated with decreased quality of life, high economic and personal costs. Many studies have shown high association of Insomnia with depression, anxiety and other co-morbid psychiatric conditions. Majority of patients are prescribed sedatives and hypnotics for their sleep problems. Systematic review conducted by Morin on et al. on 37 treatment studies published between 1998 and 2004 shows significant improvement in several sleep parameters of individuals with primary and co morbid insomnia with psychological and behavior treatment (02). Psychological and behavior treatment of insomnia facilitated discontinuation of medication among chronic hypnotic users. Sleep improvements achieved by behavior treatment were sustained for longer time compared to improvements achieved by medications alone (02). Patients usually do not recognize their sleep problems and are reluctant to provide information to physician. There is perception that insomnia is a benign, trivial, or a problem one should be able to cope with it alone (01). There is a lack of awareness of available treatment options for insomnia and perception of available treatment options as ineffective and unattractive among patients (01). Patients who come for mental health treatment usually do not report sleep problems, so screening them for sleep problems may be a good tool to diagnose unrecognized Insomnia. Psychiatric co-morbidity is usually over diagnosed in subjects with sleep problem leading to over use of psychotropic medication and sedative hypnotics. Careful evaluation of sleep problems and implementation of sleep hygiene methods in those subjects with significant sleep problems can decrease the use of sedative/hypnotics leading to lesser side effects and decreased risk of dependence of sedative hypnotics.
References:
1. Stinson et al. SLEEP, Vol. 29, No. 12, 2006
2. Morin CM et al. SLEEP 2006; 29(11):1398-1414

NR5-40
INTERNET SEX ADDICTION: A CASE REPORT

Lead Author: Lambert Low, M.B.B.S.

SUMMARY:
Introduction? The controversy regarding Internet Sex Addiction was recently discussed in a review article (Nick et al., 2012). Only one case study (Bostwick & Bucci., 2008) was published by an American Psychiatric Association Journal and no papers were published on the subject in any Royal college of Psychiatrist Journal (Nick et al., 2012). Despite that in practice, there continues to be patients with sex addiction whose condition seems closely tied in with internet use. Here we explore such a case.

Methods? Case Study

Findings?
A 22 year old Chinese Gentleman self referred for problems of Internet Pornography Addiction. He was a homosexual who had started surfing gay pornographic websites since he was 16 years old. He surfed the internet for pornography greater than 10 hours a day. This quickly escalated to soliciting for sexually explicit videos from gay chatroom users. Soon thereafter, he begun to search the chatroom for willing parties who will meet up with him for sexual intercourse. He described himself as someone who would not ordinarily approach people he meets for sex as he did not know their orientation and felt ackward making new friends, but on the chatroom, he would have no reservations as he knew the people who visited his chatrooms were gay. He was preoccupied about obtaining sex, felt restless and irritable if he did not obtain it and would crave to log onto the internet to search for sexual partners. This adversely affected his school and work performance.

Discussion?
This case highlighted the ease at which someone with addiction to pornography escalated rapidly to sex addiction with the aid of the internet. In particular the profile of the patient being someone who was socially inept makes it harder for him to get sexual partners if not for the internet. Internet use continues currently to perpetuate his sexual endeavours and a novel treatment approach is needed for such cases.

REFERENCES:

Bostwick JM, Bucci JA. Internet sex addiction treated with naltrexone. Mayo Clin Proc. 2008;83:226-30.

Nick Dunn, Matthew Seaburne-May and Philip Gatter. Internet sex addiction: a licence to lust? Advances in Psychiatric treatment. 2012;18:270-277.

NR5-41
IS INTERNET ADDICTION A PSYCHIATRIC ILLNESS OR AN EMERGING SOCIAL PHENOMENON?

Lead Author: Shaneel Shah, M.D.
Co-Author(s): Jeffrey Hamblin, MD
SUNY Downstate Medical Center, Brooklyn, NY

SUMMARY:
Internet is rapidly becoming entwined in our daily lives and now forms an essential part of many activities. Ivan Goldberg invented the term 'Internet Addiction Disorder' in 1995. Seventeen years later, Internet Addiction is now seen as a worldwide problem. Prevalence estimates vary widely and range from 2-35% in different populations. In fact, DSM-5 work group has made proposal to include 'Internet Use Disorder' in section III, under conditions that require further research. Controversy still exists in the literature regarding considering Internet Addiction a separate disorder. Will it be wise to consider something this essential and pervasive as Internet a pathological entity rather than an emerging social phenomenon that deserves attention as a normative behavior? An attempt is made here to discuss and evaluate this dispute along with the critical appraisal of literature.

NR5-42
IS KEEPING UP WITH THE KARDASHIANS KEEPING YOU DOWN? REALITY TELEVISION AND ITS EFFECTS ON MENTAL HEALTH

Lead Author: Audrey Longson, D.O.

SUMMARY:
Over the past several decades researchers have amassed an impressive body of data that characterizes narcissism and explores its consequences. In contrast, empirical data on the origins of narcissism remain limited. Mental health professionals have long contemplated the genesis of narcissism, often implicating family of origin dynamics. However, increasing attention is being paid to environmental influences other than parents in the development of narcissism. TV has become an increasingly popular form of entertainment, with 96.7% of American households owning at least one TV (Nielsen, 2011). Reality TV is a genre of programming that presents purportedly unscripted situations and ostensibly features ordinary people instead of professional actors. Reality TV is very popular, and is supposed to portray "real life" to viewers; however, in many ways it simply serves as a showcase for narcissism. America's youth - the main consumers of Reality TV - are still in the process of forming their world view. The author postulates that high Reality TV viewership, particularly at a young age, can lead to a phenomenon in which narcissism begins to seem like "normal" behavior. This study employed a novel data collection method, social networking (which presents its own unique twist on "reality"), to examine the impact of Reality TV upon the American psyche. Subjects were invited to click a link posted on the author's Facebook page. >400 Facebook friends were asked to take 3 surveys. The aforementioned link was also posted to the author's sister's Facebook page and the author's male cousin's Facebook page, asking their > 500 and > 600 Facebook friends, respectively, to take the surveys. Inclusion criterion included: 1) Active Facebook account, 2) Age range 18-60, and 3) History of Reality TV viewership. 3 web based surveys: 1) Narcissistic Personality Inventory (NPI), 2) Rosenberg Self-Esteem Scale (RSE), and 3) A demographics and Reality TV viewership questionnaire were administered to each subject. The demographics and reality television viewership questionnaire was created by the author, as research found no existence of a similar questionnaire that fit the needs of the study. The aforementioned questionnaire assessed the quantity and types of reality TV shows viewed by each subject. In addition, basic distinguishing information was obtained about each subject (age, gender, etc). NPI was correlated with total # of reality TV shows watched for each subject. Then, both variables (NPI and Reality TV shows) were broken down into subcategories based on factor analyses and theoretical groupings obtained from the author's Reality TV questionnaire (shows were categorized into "Purely Voyeuristic", "Skill/Challenge/Competition", & "Educational"). The relationship between subscales of both the reality TV shows and the NPI were examined with regression analyses. Finally, associations between the RSE Scale and subcategories of Reality TV shows were examined.

NR5-43
LITHIUM, HYPERCALCEMIA, AND HYPERPARATHYROIDISM: WHAT PSYCHIATRISTS NEED TO KNOW

Lead Author: Emaya Anbalagan, M.D.
Co-Author(s): Anupama Ramalingam MD, Resident Physician, University of Missouri-Columbia
Sameer Bellapravalu MD, Assistant Professor, University of Missouri-Columbia

SUMMARY:
Introduction:
Lithium has been known to cause varied side effects like leucocytosis, hypothyroidism, weight gain, renal abnormalities including diabetes insipidus and cardiac arrhythmias which are very well known. One adverse effect which is not so much in the forefront in psychiatry is hypercalcemia and sometimes associated hyperparathyroidism. Here, we present a patient who presented with lithium toxicity, altered mental status, hypercalcemia, hyperparathyroidism and also nephrogenic diabetes insipidus with a specific focus on what psychiatrists need to know in managing hypercalcemia and hyperparathyroidism.

Case report:
Mrs.A was a 66 year old Caucasian female with a history of schizoaffective disorder. She was admitted for altered mental status from an outside hospital due to Lithium toxicity. Her lithium level was reported to be 3.4mEq/L initially but was around 1mEq/L on admission. She was found to be in acute renal failure with hypernatremia and hyperthyroidism and was diagnosed with Lithium induced Nephrogenic Insipidus. iCal was critically high at 1.62mmol/L, total Calcium was 11.2 mg/dl. She was aggressively treated with free water replacement and DDAVP. Lithium was stopped. Further evaluation revealed a high PTH of 484.8pg/ml (normal 15 - 65 pg/ml). In a few days, her mentation improved. Nephrology recommended starting cinacalcet 30 mg daily. A Sestamibi scan did not show definite evidence of Parathyroid adenoma but was limited due to patient noncompliance. At this point iCal was 1.54mmol/L and the total calcium was down to 10.0mg. She had also been given one dose of IV zoledronic acid. Once the patient had been medically stabilized and her mental status

had improved, she was discharged home on cinacalcet 30 mg bid to follow up with nephrology and the medical team.

Conclusion:
Lithium has been known to cause hypercalcemia by altering the set point of calcium sensing receptors. Hypercalcemia and hyperparathyroidism have been seen in 10-15 % of people on long term lithium in some studies. Stopping lithium may reverse this but if hypercalcemia persists many options exist - careful observation alone, treatment with cinacalcet or parathyroidectomy in patients with parathyroid adenomas. The importance in treating this lies in the fact that many patients whose psychiatric symptoms were not under control reported symptomatic improvement once their endocrine irregularities were corrected. Prior to starting Lithium, baseline PTH and calcium levels should be established. No standard recommendations exist but some authors suggest that the levels be checked atleast on a yearly basis and sooner in patients showing symptoms of hypercalcemia - fatigue, constipation, polydipsia, polyuria, muscle weakness and altered mental status. Psychiatrists have to be aware of hypercalcemia and hyperparathyroidism as a side effect of Lithium use and should incorporate screening and regular checks of parathyroid function as part of their treatment.

NR5-44
A SYSTEMS OF CARE ANALYSIS FOR RETURNING VETERANS AT A LARGE, URBAN VA MEDICAL CENTER

Lead Author: Laura A. Bajor, D.O., M.A.
Co-Author(s): Christopher J. Miller, PhD
Sally Holmes, MA
Carol VanDeusen-Lukas, PhD
Mark S. Bauer, MD

SUMMARY:
BACKGROUND: Treatment of the Returning Veteran (RV) cohort involves heterogeneous challenges including traumatic brain injuries, posttraumatic stress disorder, and substance dependence. Individual RVs fall along a spectrum ranging from remarkably resilient to extremely impaired. Such variations in presentation demand a system of care capable of providing situation-appropriate and well-coordinated services. The effectiveness of the Chronic Care Model (CCM) has been demonstrated for improving care of patients with depression, bipolar disorder, diabetes, heart disease, and AIDS. Use of the CCM has not yet been studied for non-chronic populations. However, given the complexity of the RV cohort and the challenges inherent to their management, fit of the CCM for improving RV systems that care for them bears investigation.

METHODS: We conducted semi-structured qualitative interviews with 20 staff members at a large urban VA medical center who care for RVs. Interview questions were designed to evaluate the system of care for this population and whether the Collaborative Chronic Care Model (CCM) could be applied to improve near-term outcomes and curtail onset of chronicity. Investigators use the Constant Comparative Method to analyze and interpret interview data.

RESULTS: Data collected from this study show the CCM as likely to be a good fit for improving systems that care for RVs. However, successful implementation requires expanded emphasis on a few non-CCM constructs interview subjects mentioned as very important to successful care of RVs. These include Unique Characteristics of RVs, Veteran-Centeredness of Care, and Treatment Engagement.

CONCLUSIONS: This first attempt at determining the fit of the CCM for non-chronic populations such as RVs shows it likely to be effective in improving their care. Follow-up work using RVs as primary sources and testing of hypotheses at multiple sites would further clarify fit of the CCM for these purposes.

NR5-45
MAINTENANCE ELECTROCONVULSIVE THERAPY FOR SELF-INJURIOUS BEHAVIOR AND AGGRESSION IN TWO ADOLESCENTS WITH AUTISM AND CATATONIA

Lead Author: Aazaz Ul Haq, M.D.
Co-Author(s): Neera Ghaziuddin, M.D.

SUMMARY:
Catatonia is a complex neuropsychiatric syndrome associated with motor disturbance (reduced or increased activity, unexplained cessation of motor activity, repetitive/ stereotyped behaviors, and a variety of dystonic movements) and psychiatric symptoms (anxiety, mood disturbance, psychosis, inattention, reduced food and/or fluid intake, and decline in function). In addition to the typical motor and psychiatric symptoms, high frequency aggression to self or others is increasingly recognized as a feature of catatonia in patients with autism. A number of case reports have shown that, similar to other forms of catatonia, catatonia associated with autism responds well to treatment with benzodiazepines and/or electroconvulsive therapy (ECT). However, despite successful treatment, some patients experience a gradual return of symptoms when ECT is discontinued and may require long-term maintenance ECT.

We report here the maintenance ECT treatment in two autistic adolescent patients with severe aggression, repetitive self-injurious behaviors (SIB), and stereotyped motor symptoms. With ongoing use of maintenance ECT, both patients have achieved dramatic reduction in aggression and SIB, allowing them to live at home, attend school, and have a reasonable quality of life. Attempts to taper off ECT coincided with return of symptoms. Based on our observations, without maintenance ECT, these patients would likely require out-of-home placement with constant supervision, despite the fact that their parents are highly invested in caring for them. We propose that, in autistic patients with catatonic symptoms who improve with administration of ECT and worsen when ECT is discontinued, maintenance ECT should be continued for as long as it benefits the patient.

NR5-46

MANAGEMENT OF A SEVERE FORM OF MALIGNANT CATATONIA: USEFUL LESSONS IN DIAGNOSIS AND MANAGEMENT

Lead Author: Payam M. Sadr, M.D.
Co-Author(s): Hazeghazam M, Bailon M, Boskailo E, Pynn J, Omranian A, Carlson R, , and James W.

1-Department of Psychiatry, Maricopa Integrated Health System Phoenix, AZ 85008
2-Department of Medicine, Maricopa Integrated Health System Phoenix, AZ 85008

SUMMARY:
Malignant catatonia (MC) is a severe manifestation of catatonia marked by autonomBackground: Catatonia is characterized by abnormal movements, speech and behavior disturbances and is associated with medical, psychotic, drug-related, and neurological disorders. Malignant catatonia (MC) is a severe manifestation of catatonia marked by autonomic instability, fever and waxy flexibility. Current treatments include anticonvulsive drugs, benzodiazepines (BZD) and electroconvulsive therapy (ECT). Although ECT treatment has been used to treat MC in psychiatric patients with long histories of psychotropic use, its application in cases of newly diagnosed psychiatric conditions is not widely observed. Prompt diagnosis and treatment with BZD and/or ECT is critical to avoid devastating symptoms of MC.
A 20 year old Hispanic male with no past psychiatric history presented to a local hospital due to manic symptoms, psychosis, and confusion. He was sent to an urgent psychiatric center (UPC) where he received Haloperidol, Olanzapine, Diphenhydramine, and Lorazepam before admission to the inpatient Psychiatric unit. Because of autonomic instability he required transfer to the general medical unit of the hospital and subsequently to the medical intensive care unit (MICU). In the MICU his autonomic instability worsened with ongoing mutism and altered mental status. Multiple laboratory tests, including creatine phosphokinase , serum ammonia, HIV testing as well as hepatitis- HSV, anti N-Methyl-D-Aspartic Acid Antibody (NMDA), screening tests for pheochromocytoma, blood culture, , cerebrospinal fluid analysis, and diagnostic imaging, including computed tomography (CT) and magnetic resonance (MR) of the brain, revealed no organic etiology for his deteriorating condition. One episode of ECT was performed on day 8 of hospitalization. In order to avoid excess potassium load in the presence of autonomic instability a non depolarizing muscle relaxant was used which required intubation. During intubation the patient aspirated and subsequently developed chemical pneumonia. Accordingly subsequent ECT treatments were delayed for 4 days, awaiting resolution of pneumonia. Due to concerns for protecting patient against additional episodes of aspiration pneumonia, the 3 last episodes of ECT were done while patient was intubated. A total of 12 ECT therapies were performed with improvement that permitted return to the psychiatric unit on day 49. He was discharged home on low dose Perphenazine due to his persistent psychotic symptoms and Valproic acid for mood stabilization on day 63.
Conclusions: A case is presented of malignant catatonia in a newly symptomatic psychiatric patient, with no past history of psychotropic use. Diagnostic challenges, including the difficulty distinguishing between MC and neuroleptic malignant syndrome, the role of neuroleptic medication in medication naïve patients and the necessary collaboration between psychiatric and medical staff.

NR5-47
MANIC EPISODE WITH PSYCHOSIS AS CLINICAL PRESENTATION OF PRIMARY SJOGREN'S SYNDROME: A CASE REPORT

Lead Author: Natasha Dalseth, M.D.
Co-Author(s): Kiran Majeed, MD;
Mary F. Morrison, MD, MS

SUMMARY:
Introduction: Primary Sjogren's Syndrome (PSS) is a systemic autoimmune disease that is characterized by mononuclear cell infiltration and destruction of exocrine glands resulting in ocular and oral dryness. The majority of patients with PSS develop pulmonary, hematologic, renal, vascular and gastrointestinal disorders, as well as nonfocal and focal neuro-psychiatric disease. We present a case of a 19 year old woman who developed a manic episode with psychotic features as part of CNS Sjogren's Syndrome. The patient was recently hospitalized for encephalitis accompanied by dysfunction in several major organ systems. Her condition improved dramatically after a course of IVIG. Nine days after being discharged from the hospital, she presented with euphoria, irritability, social disinhibition, pressured hyperphonic speech, markedly decreased need for sleep, flight of ideas, auditory hallucinations and paranoid delusions. Extensive medical workup initiated during first hospitalization revealed positive SSA and SSB antibodies in peripheral blood. Treatment with Methylprednisolone, Quetiapine, and Haloperidol resulted in resolution of psychotic symptoms and reduced severity of mood disturbance.

Methods: We completed a review of literature on PubMed and Ovid using the following keywords: (1) Sjogren's Syndrome/Primary Sjogren's Syndrome/Sicca Syndrome/Autoimmune/Rheumatologic and (2)Manic/Mania/Bipolar/Psychosis/Psychotic/Psychiatric/Neuropsychiatric. This literature search was conducted to explore the link between autoimmune disease, Primary Sjogren's Syndrome in particular, and various neuropsychiatric clinical presentations.

Results: No report of a manic episode or bipolar disorder as an early manifestation of Primary Sjogren's Syndrome was found. Our literature search revealed case reports and studies that link PSS to depression, anxiety, personality disorders, somatization and cognitive dysfunction, whereas manic and psychotic symptoms have been described as part of clinical picture in other autoimmune disorders, such as Systemic Lupus Erythematosus, Multiple Sclerosis and Hashimito's Thyroiditis.

CONCLUSION:

A manic episode can be an early manifestation of Primary Sjogren's Syndrome, and can occur in the absence of well recognised clinical features of mucosal dryness. PSS and other autoimmune disorders should be considered and investigated as a possible underlying cause of psychiatric syndromes. Early correct diagnosis of patients who present with acute onset psychosis or an episode of severe mood disturbance can lead to appropriate multidisciplinary management and better clinical outcome.

NR5-48: WITHDRAWN

NR5-49

MENTAL HEALTH AND FIBROMYALGIA IN AN ADOLESCENT: A CASE STUDY THROUGH AN ALTERNATIVE MEDICINE PERSPECTIVE

Lead Author: Meghan Schott, D.O.

SUMMARY:

Fibromyalgia is a fairly common disorder that affects 2% of the population. Although most patients with fibromyalgia are women in their 40s and 50s, fibromyalgia is diagnosed in the pediatric population. Juvenile fibromyalgia is typically diagnosed in adolescent girls and represent a significant amount of the pediatric patients presenting to rheumatology clinics. Although comorbidity of psychiatric disorders in juvenile fibromyalgia patients mimics that of adults, unlike adults, anxiety disorders are more prevalent than major depression and there is a strong prevalence of attention deficit disorder.

Treatment options for patients with fibromyalgia emphasize a multi-modality approach which includes education, exercise, sleep hygiene, and pharmacological intervention including antidepressants and pain medications. In a survey by the Mayo Clinic, 98% of fibromyalgia patients reported using complementary and alternative medical (CAM) therapy including chiropractic or other forms of manual medicine including osteopathic manipulative treatment (OMT). Since many people who are diagnosed with fibromyalgia utilize CAM, it is important that clinicians understand the effectiveness of these treatment options and how it impacts physical and mental health. This case presentation will focus on the use of pharmacological treatment in combination with CAM modalities in the management of fibromyalgia patients with particular regard to treating psychiatric disturbances.

NR5-50

MIRTAZAPINE SUCCESSFULLY USED AS AN APPETITE STIMULANT IN PRIMARY REFUSAL TO EAT IN ADULTS WITH MODERATE INTELLECTUAL DISABILITY

Lead Author: Rupal Patel, M.B.B.S.
Co-Author(s): Dr Richard Hillier

SUMMARY:

Background

Current research has shown that Mirtazapine has been effectively used to stimulate appetite in the elderly (1). Here we present a case series of four patients with a Moderate Intellectual Disability who each presented with intractable refusal to eat over several months but who did not have overt symptoms of depression according to carers and family. Two of the four patients were being considered by Speech and Language Therapy professionals (SLT) for Percutaneous Endoscopic Gastrostomy (PEG) feeding in view of their significant weight loss and deteriorating physical health.

Results

Mirtazapine was introduced as an appetite stimulant (2), even though there were only minimal symptoms and signs which might have suggested the onset of a depressive episode. All patients experienced an improvement in their appetite within days of initiation of Mirtazapine, increasing their calorie and fluid intake and obviating the need for PEG feeding. During the following 3 months, the patients were also noted to develop an increased interest in activities, improved sleeping pattern and improved concentration.

Conclusion

These patients had very limited communication skills and there was little suggestion of depression at the time of assessment. The families and carers also did not feel that their relative was significantly depressed. Despite this, Mirtazapine had the two fold benefit of early appetite stimulation and, over the subsequent weeks, treating what in hindsight had been an underlying depressive episode.

A lesson to be learnt is that primary refusal to eat, even in the absence of overt depressive symptoms may indicate an occult depressive episode in this patient group. We have shown that Mirtazapine can be an effective treatment in such cases and can prevent distressing medical intervention from having to be used.

References

1. Fox CB: Megestrol acetate and mirtazapine for the treatment of unplanned weight loss in the elderly. Pharmacotherapy 2009; 29(4): 383-97.
2. Laimer M: Effect of mirtazapine treatment on body composition and metabolism. J Clin Psychiatry 2006; 67(3): 421-4.

NR5-51

MULTIDISCIPLINARY EVALUATION OF PRESCHOOL CHILDREN IN A MILITARY PSYCHIATRY CLINIC: A 25-YEAR COMPARISON STUDY

Lead Author: Alissa Renee Garcia, M.D.
Co-Author(s): Amit K. Gupta, M.D.
Bernard E. Lee, M.D.
Michael Lustik, M.S.

SUMMARY:

For over twenty-five years, the Child and Adolescent Psychiatry Service at Tripler Army Medical Center (TAMC) has conducted a Child Study Group (CSG), multidisciplinary diagnostic team clinic for preschool children. The multidisciplinary team consists of child psychiatrists, psychiatry residents, a developmental pediatrician, a speech pathologist, an

occupational therapist, a social worker, and medical students. Approximately ten to twelve children are evaluated in three weekly sessions and given diagnoses based on DSM-IV(TR) and treatment recommendations. This is a unique service that is not offered anywhere else in the state of Hawaii. The methods and results of the CSG were initially reported in 1987 (Lee, 1987) and the last update on the CSG was 16 years ago (Lee, 1996). The current study is an update on the methods of the CSG and compares the data from the groups of children evaluated in 1984 and 1994 to children evaluated from July 2010 through June 2011 by means of a chart review. It reviews demographic data, presenting symptoms, and final diagnoses given to a total of 141 children following the CSG. The study also looks to see if the diagnoses of the children in 2010-2011 changed 3-6 months out from the completion of their CSG evaluation via a followup/secondary chart review. Notable outcomes include a younger population being seen in 2010-2011, with more 12-24 month old children (0% in 1994 vs. 5% in 2010-2011) and 53.3% being under the age of 48 months, as opposed to 45.2% in 1994. The rate of diagnosis of a pervasive developmental disorder (autistic disorder, Asperger's disorder, PDD NOS) increased to 25.5% in 2010-2011 from 8.5% in 1984 and 9.1% in 1994. The rate of aggression/destructive behavior/having temper tantrums as a presenting symptom also rose, from 41.9% in 1984 to 55.8% in 1994 to 70.9% in 2010-2011, with a concurrent increase in the rate of diagnosis of a disruptive behavior disorder (ADHD, ODD, Conduct Disorder, or Disruptive Behavior Disorder NOS) from 20.2% in 1984 to 40.3% in 1994 to 58.9% in 2010-2011. Especially given the lack of other studies involving a model of evaluation like the TAMC based CSG, it is important to update the medical community on the methods and process of this valuable tool. In addition, there have been dramatic changes in recent years in the prevalence of many disorders in child psychiatry. In particular, ADHD in children 4-17 years old has increased 28% in prevalence from 1998-2008 per CDC reports. Autism spectrum disorders (ASDs, falling under pervasive developmental disorders), once thought to be rare, are now estimated to affect about 1% of children in the United States. While this data applies to all children in the United States, not just military families, it is informative to compare the trends in the diagnoses of these two particular disorders over the last twenty-five years as seen in the CSG.

NR5-52
BIPOLAR DISORDER AND TOURETTE SYNDROME IN ADULTS- A TREATMENT CHALLENGE

Lead Author: Gurjot Singh, M.D.
Co-Author(s): Manoj Puthiyathu, MD

SUMMARY:

Background
Tourette syndrome(TS) is characterized by chronic multiple motor and one or more vocal tics, has not been well recognized in adults.There are many studies in literature that provides evidence of Bipolar disorder being one of the co morbid disorder in adult patients with TS. Treatment of TS in adults and Bipolar disorder is very challenging and has not been exclusively studied.
Objective: A case report to look for treatment challenges in adult patient with Tourette syndrome with co- morbid Bipolar disorder.
Case report
RS was a 41 year old Caucasian male, single, living alone in an apartment, unemployed, had history of Bipolar I disorder >3years, Alcohol dependence with physiological dependence, Sedative-Hypnotic abuse and TS , was last evaluated in outpatient department for regular follow up. He was very satisfied and compliant with the medications and had been regularly following up in the outpatient clinic. Patient's medication included Pimozide 1 mg P.O BID , Quetiapine 100mg P.O BID, lamotrigine 50 mg OD, Clonazepam 1 mg TID . His past psychiatric history included history of Tourette syndrome since childhood with predominantly motor and intermittently vocal tics. He had documented history of legal charges, 3 DUIs, assaultive behavior with family and greater than 5 inpatient psychiatric hospitalizations. He also had history of two suicidal attempts in the past, last one was three years ago when he tried to cut his neck with a knife and required sutures at that time. His substance history included Alcohol and sedatives-hypnotics abuse (takes more than the prescribed dose of clonazepam) for 2 years. He had no history history of DTs, detoxifications or rehabilitations in the past.
Discussion:
Treatment of TS in this patient had been very challenging because of co- occurring Bipolar disorder and Substance Abuse. The challenge in the treatment of this patient was Pimozide can interact with Quetiapine and increases the risk for prolong QT syndrome. The other challenge was Lamotrigine, a FDA approved for Bipolar disorder- depressive type, was very effective for the patient but according to a case- study in literature, it can provoke symptoms of TS. The third challenge developed when patient started abusing Clonazepam that made the treatment management even more difficult.
Patient was followed up after two months after keeping him on same regimen with regular monitoring. He remained compliant to his medications with no exacerbation of symptoms and no hospitalizations reported. The plan was made to closely monitor the QT prolongation by following up with regular EKGs. Patient was given psych-education regarding Clonazepam abuse and will be monitored for any further abuse. Patient will be following up in outpatient clinic once every month.
This case was a good illustration to show us the complications and challenges we can face in an adult patient with TS with co-occuring Bipolar disorder and substance abuse.

NR5-53
OBSESSIVE-COMPULSIVE TRAITS IN PHYSICIAN SPECIALTY GROUPS

Lead Author: Elizabeth Zaleski, M.D.
Co-Author(s): Michele Pato, MD
Barbara Van Noppen, PhD

SUMMARY:

Physicians are well-trained to identify and treat disease in others, but may have difficulty identifying aspects of psychiatric or

medical disease in themselves. Though there are studies that examine psychiatric symptoms in different physician groups, this is the first study to examine obsessive-compulsive traits among residents and faculty members of various medical specialties. We used a validated self-report questionnaire (FOCI) to evaluate for the presence of obsessions and compulsions in three different physician specialty groups. There was a significant difference for two endorsed compulsions (asking for reassurance/confessing and examining oneself for signs of illness) in the psychiatry group compared to internal medicine and surgical specialties groups.

NR5-54
OLFACTORY HALLUCINATIONS IN SCHIZOAFFECTIVE DISORDER

Lead Author: Nima Sharif, M.D.
Co-Author(s): Adil Mohammed M.D., Havinder Singh M.D., Camille Paglia M.D., Maryam Namdari D.O., John Harding M.D.

SUMMARY:
INTRODUCTION: Hallucinations are common in psychotic disorders but olfactory hallucinations are underreported by conventional clinical instruments, infrequently researched, and poorly understood. We present here a case of schizoaffective disorder with olfactory hallucinations.
METHODS: The PubMed and OVID databases were searched using the following keywords: schizoaffective disorder and olfactory hallucinations, olfactory hallucinations in schizophrenia, olfactory hallucinations
CASE DESCRIPTION: The patient is a 41-year-old Caucasian female referred to the outpatient clinic by her primary care physician for management of depression and anxiety. Her anxiety was initially triggered by the odor of perfume. She avoided places with this stimulus and had problems at work secondary to her perceptions of a synthetic air freshener smell. After eight months of outpatient treatment, the patient revealed paranoid delusions that included the government following her, and cameras being planted in her house and the psychiatrist's office. She also reported experiencing auditory hallucinations such as hearing music and people calling her name, and olfactory hallucinations of perfumes that others could not smell. Her psychotic symptoms started in her early twenties and worsened five years ago. At this time, she started to have difficulty at work due to her constant perception of the odor of synthetic air freshener. Brain imaging studies, including brain MRI without contrast, and laboratory tests, including CBC, CMP, lipid panel, ESR, RPR, Vitamin B12, Folate and TSH level, were done to rule out metabolic and organic causes. These studies were within normal limits, with the exception of a slightly low B12 level for which she was started on Cyanocobalamine. A neurology consultation ruled out seizure activity. The patient was diagnosed with schizoaffective disorder, bipolar type, and treated with Ziprasidone titrated to 40 mg twice daily, and Lamotrigine titrated to 200 mg HS. She was compliant with her medications and began to show improvement in psychotic, mood and anxiety symptoms.
CONCLUSIONS: Olfactory hallucinations are present in wide range of conditions including temporal lobe epilepsy, migraines and schizophrenia. Auditory hallucinations are the most common among hallucinating schizophrenic patients (75%) followed by somatic (37%), visual (18%) and olfactory (14%) hallucinations. This presumed rarity of olfactory hallucinations is likely due to the fact that most psychiatrists do not inquire about such experiences. Such symptoms may also be indicative of poorer prognosis and more severe psychopathology. This case supports the association of olfactory hallucinations with delusions, likely exacerbating a patient's sense of threat and anxiety.

NR5-55
POTENTIATION OF LOCOMOTOR ACTIVITIES AND STEREOTYPICAL MOVEMENTS AFTER REPEATED COCAINE ADMINISTRATION IN TNF RECEPTOR-DEFICIENT MICE

Lead Author: Ankur Patel, M.D.
Co-Author(s): Dr. Steven S. Zalcman,Ph.D., Associate Professor, Department of Psychiatry, UMDNJ- New Jersey Medical School,Newark, NJ.

SUMMARY:
There is evidence that TNF? inhibits motor activity and striatal dopamine function. For example, TNF? decreases the locomotor-stimulating and rewarding effects of methamphetamine and inhibits accumbal dopamine activity. Consistent with this finding, deletion of TNF receptors (TNFR) results in hyperactivity. The present study was undertaken to characterize the behavioral phenotype of combined TNFR knockout (KO) mice under severe challenges that evoke long-term pathological outcomes (chronic cocaine-induced stereotypy). We found that compared to wild type mice, combined TNFR KO mice showed spontaneous hyperactivity and significant increases in locomotor and repetitive stereotyped movements in a novel environment when repeatedly administered with cocaine. With repeated injections of cocaine (7-day treatment regimen), both wild type and TNFR KO mice showed progressive increases in the expression of repetitive stereotypies, which notably included intense grooming and pivoting. However, the duration and intensity of this effect was significantly greater in TNFR KO mice. Collectively, these data suggest that TNF receptors tonically inhibit brain dopaminergic processes associated with locomotor activity and repetitive stereotyped movements. Accordingly, abnormal TNF receptor signaling may play a role in psychiatric disorders associated with repetitive stereotyped movements.

NR5-56
PREDICTIVE VALUE OF NINE DEFINITIONS OF FAMILIAL ALCOHOLISM

Lead Author: Kunal Bhikhalal Tank, M.D.
Co-Author(s): Elizabeth C. Penick, Ph.D.
Joachim Knop, M.D., Dr. Med. Sci
Elizabeth J. Nickel, M.A.
Bjorn Ebdrup, M.D.
Per Jensen, M.D.
Ulrik Becker, M.D.
Erik L., Mortensen, cand. psych.

William F. Gabrielli, M.D., Ph.D.

SUMMARY:
Objective: This study investigated the predictive value of nine different methods used to define a family history of alcoholism. Two outcome variables were assessed: the development of DSM-III-R Alcohol Dependence and the Remission from Alcohol Dependence. Method: Subjects were part of a longitudinal study of 329 Danish men two-thirds of whom were high risk sons of alcoholic fathers (n=223) and one-third (n=106) who were matched low risk sons of non-alcoholic fathers. Subjects were studied perinatally, at age one year, at age 20 years, 30 years and 40 years. Alcohol outcomes were assessed at age 30 and age 40. Family history was obtained from two major sources: subject information at the 30-year and 40-year followup; archival information obtained from Danish registry data. Nine methods were formed to define family history, including paternal, parental, number of alcohol relatives with an AUD, proportion of relatives with an AUD, maternal vs. paternal relatives with an AUD, any first degree relative with an AUD, and three FH methods that were derived from Registry data. Alcohol Dependence was determined using a DSM-III-R diagnosis by the study psychiatrist and from the number of symptoms endorsed on the alcohol section of a psychiatric diagnostic interview. Remission from alcohol dependence was determined by a psychiatrist at the 40-year followup. Results: All methods of defining family history successfully predicted alcohol dependence. None of the methods predicted remission from alcohol dependence. Conclusion: Family history appears to be a successful predictor of the occurrence of alcohol dependence, but not of a sustained stable remission.

NR5-57
PRELIMINARY RESULTS OF DEPRESSION TREATMENT IN BIPOLAR II DISORDER USING CRANIAL ELECTRICAL STIMULATION (CES)

Lead Author: Siva Sundeep Koppolu, M.B.B.S.
Co-Author(s): G Kazariants, M Varvara, D McClure, Z Yaseen, AMR Lee, I Galynker

SUMMARY:
Introduction: Cranial Electrical Stimulation (CES) is a non-invasive brain stimulation technology which has been FDA cleared for the treatment of depression, anxiety and insomnia. However, there is a relative lack of controlled clinical trials supporting its efficacy in treating the depressive phase of bipolar II disorder. This single blind, randomized, sham controlled study examines the safety and efficacy in this particular group of patients. Preliminary results of the study are discussed.

Methods: Patients diagnosed with bipolar II disorder currently experiencing depression symptoms by SCID-P were recruited from the Family Center for Bipolar in New York City. Subjects were randomly assigned to two groups in phase I: a placebo group and an active group, for the first two weeks of daily 20 minute treatment sessions. Following this both groups received an active treatment for additional two weeks in phase II. Depression symptoms were rated using the Hamilton Depression Rating Scale (HAM-D), the Beck Depression Inventory (BDI) and the quality of life was assessed using the Quality of Life Satisfaction and Enjoyment Questionnaire (Q-LES-Q). The assessments were completed at the study intake, at the end of the 2nd week of treatment (placebo group) and 4th week of treatment (experimental and placebo groups) during the treatment period.

Results: Patients were 75% male and 50% white, with a mean age of 52.00. The treatment group had a 38% decrease on the HAM-D mean score (baseline M=22.00, 4th week M=13.67), also a 30% decrease on the BDI (baseline M=41.00, 4th week M=27.67) and a 31% increase on the Q-LES-Q (baseline M=28.67, 4th week M=37.67) The placebo group had no change on the HAM-D (baseline and the 2nd week M=20.00), a 22% decrease on the BDI (baseline M=38.00, the 2nd week M=30.00.) After additional two weeks of active treatment the placebo group had an average of 40% decrease on the HAM-D (M=12.00), a 39% decrease on the BDI score (M=23.00) and a 69% increase on the Q-LES-Q (M=54.00) compared with the baseline scores.

Discussion: CES therapy had a positive treatment effect reducing the level of depression in the experimental group from severe to mild and was associated with an increase in quality of life during the treatment period. In the placebo group the depression level did not change on the clinician administered scale but was reduced on the self-report scale. After additional two weeks of active treatment the placebo group also had a reduction in depression symptoms levels and an increase in life satisfaction.

Key Words: Bipolar Disorder, Depression, Cranial Electrical Stimulation

NR5-58
PRESENTATION AND PREVALENCE OF PTSD IN A POPULATION WITH BIPOLAR DISORDER

Lead Author: Julia Marie Hernandez, M.S.
Co-Author(s): Cordova, Matthew J, Ph.D. (1,2), Ruzek, Josef, Ph.D. (1,2), Reiser, Robert, Ph.D. (1), Gwizdowski, Iola, M.S. (2), Suppes, Trisha, M.D., Ph.D. (2,3) & Ostacher, Michael J, M.D., MPH, MMSc (2,3)
(1) Palo Alto University, Palo Alto, CA
(2) Veterans Affairs Palo Alto Health Care System
(3) Stanford University School of Medicine

SUMMARY:
Introduction: Co-occurring psychiatric diagnoses have a negative impact on quality of life, and can change the presentation and prognosis of bipolar disorder. Research to date has primarily focused on co-occurring anxiety disorders and trauma history within bipolar disorder; only recently has there been a specific focus on co-occurring PTSD and bipolar disorder. The rates of trauma and PTSD for patients with bipolar disorder are higher than in the general population. Given the range of symptom presentations between bipolar I and bipolar II disorder, it is interesting to assess if PTSD affects these

subtypes differently.
Methods: This study utilized the NIMH STEP-BD dataset, including 3,158 participants diagnosed with bipolar I disorder (n = 2,932) or bipolar II disorder (n = 765) to investigate differences in prevalence rates and symptoms of PTSD between patients diagnosed with bipolar I or bipolar II disorder, primarily using the MINI and the Davidson Trauma scale.
Results: There were significantly more patients with bipolar I disorder who had co-occurring PTSD at the time of study entry (?2 (1) = 12.6; p<.001). This study also examined a difference in PTSD symptoms between bipolar I and II. The number of hyperarousal, reexperiencing, and avoidant symptoms reported at the time of study entry, were evaluated for each diagnostic group. While there were no statistical differences in number of symptoms within each PTSD symptom cluster, between those with bipolar I and bipolar II disorder, those with bipolar I commonly reported a higher number of symptoms in the hyperarousal and avoidant symptoms clusters for PTSD. Further, this study supports previous research that co-occurring PTSD worsens course of illness. Those with PTSD reported more suicidal ideation, lower quality of life, higher levels of depression, and less time well, than participants without PTSD.
Conclusions: Individuals with BD and co-occurring PTSD show similar presentations of PTSD symptoms regardless of bipolar type. However, PTSD is more prevalent in BDI. Individuals should be thoroughly assessed for co-occurring diagnoses in an effort to provide appropriate treatment. Clinical implications of the findings are discussed.

NR5-59
PREVALENCE OF DEPRESSION IN PATIENTS WITH HIV INFECTION

Lead Author: Anusha G. Bhat, M.B.B.S.
Co-Author(s): Dr Ramesh Babu1, Hulegar A Abhishekh2.
1. Raichur Institute of Medical Sciences, Raichur, India
2. Bangalore Medical College and Research Institute, Bangalore, India

SUMMARY:

INTRODUCTION:
With prolonged survival rate due to effective antiretroviral (ART) addressing the psychological issue is becoming important in human immune virus (HIV) infected patients. In particular, studying the co morbid depression is assuming importance as growing body of evidences have suggested that chronic depression, stressful life events correlate with viral load, CD 4 counts in these patients. Literature on this issue remains scant in the developing country. Hence, we conducted a cross sectional study with objective of assessing prevalence of depression in patients with HIV.
METHODS:
Becks Depression Inventory (BDI) was administered to the HIV patients visiting ART center at Raichur's tertiary health center. Those on ART for at least one month and without any other psychiatric morbidity were interviewed. Depression scores were graded as follow: mild mood disturbances(11-16), mild depression(17-20), moderate depression(21-30), severe depression(31-40) and extreme depression(>40). 299 patients were interviewed after getting informed consent.
RESULTS:
Mean age of study population was 37.1 ± 9.5 years (range15-65 years). Clinical staging of HIV is as follow: 6% in stage1, 80% were in the clinical stage2, 15% in stage3. Prevalence of depression is found to be 49.8% (20.4 % had mild mood disturbances, mild depression in 8%, moderate depression in 17.1% , severe depression in 3% and extreme depression in 1.3%).
CONCLUSION:
Present study suggests that almost one in two patients with HIV have depression. Future treatment guidelines should incorporate strategies to detect and treat depression in HIV patients as depression has prominent influence on course of illness

NR5-60
PREVALENCE OF MENTAL DISORDERS IN WOMEN COMMITTED TO PSYCHIATRIC HOSPITALS IN THE PENITENTIARY SYSTEMS OF FOUR STATES IN BRAZIL

Lead Author: Milena Ferreira França, M.D., M.Sc.
Co-Author(s): Antonio Leandro Nascimento, MD, MSc
Alexandre Valença, MD, MSc, PhD
Katia Petribu, MD, MSc, PhD

SUMMARY:

Objective: To describe the prevalence of mental disorders on all women (n = 50) committed to psychiatric hospitals in the penitentiary system of four states in Northeast Brazil.

Method: Data collection was performed through interviews with patients, review of criminal records, expert opinions and assistance teams, and the application of standard questionnaires and PCL-R scale. The final psychiatric diagnosis was made on the basis of psychiatric interview and review of records, using the DSM-IV-TR and ICD-10 diagnostic criteria.

Results: Schizophrenia was the most prevalent disorder (n = 20). 62.5% of the 56 victims were members of the families of the offendants. 70% (n = 35) of patients had a history of violent behavior and 88% (n = 44) committed a violent offense that justifying their admissions. According to the psychiatric evaluation 13 (26%) patients of the total sample had mental disorders due to psychoactive substances. 74% (n = 37) of patients were not on treatment just before committing the crime.

Conclusions: Violent behavior carries a high social cost. Further research is needed to explore the risk of violence in women with mental disorders and assess the benefits of therapeutic intervention to reduce vulnerability to illegal acts

NR5-61
OBSESSIVE-COMPULSIVE DISORDER IN PREGNANCY AND POSTPARTUM

Lead Author: Tatiana Silva Almeida, M.A.
Co-Author(s): Claudia Ferro,M.D.,Luciana Gropo,M.D.,Luiz Lima Filho, B.A.,Fabia Lima, M.D.Petribú, K. C. L

SUMMARY:
Objective: Describe the onset or the course of obsessive-compulsive disorder (OCD) during pregnancy and Postpartum. Method: Subjects were interviewed by phone from May 2010 to January 2011. From a database containing 259 women with OCD, 134 were eligible for having had a child. The DSM-IV criteria, the Dimensional Yale-Brown Obsessive-Compulsive Scale and the Yale-Brown Obsessive-Compulsive Scale were measures used to obtain the psychiatric diagnosis. Results: OCD onset occurred in 8 patients (6%) during pregnancy or postpartum, 45 (42.4%) described worsening of a preexisting OCD during pregnancy and 77(68.1%) during postpartum. The most frequent obsessions/compulsions, in both pregnancy and postpartum, were contamination obsessions with cleaning/washing compulsions and symmetry obsessions with ordering/counting/arranging compulsions. The worsening probability was 3.21 times greater in the postpartum. Obstetric complications during pregnancy or delivery were associated with OCD worsening and increased the OCD risk in 7.68 times. The symptoms worsening during pregnancy and/or postpartum was associated with an earlier OCD onset (p=0.001), an earlier beginning of medical treatment (p=0.029) and obstetric complications (p=0.039). Somatic diseases and psychiatric disorders had conflicting results. Suicide history, severity by the Y-BOCS scores, psychiatric treatment or the time of treatment with antidepressants were not associated with the worsening of a preexisting OCD in pregnancy and/or postpartum. Conclusion: Due to the possible worsening of patients with pregnancy preexisting OCD , an attention should be drawn to pregnancy and postpartum .

NR5-62
PSYCHIATRIC COMPLICATIONS POST BARIATRIC SURGERY: A CASE STUDY

Lead Author: Theresa Bui, D.O.
Co-Author(s): Allison S.Marshall

SUMMARY:
Bariatric surgeries are often sought after by obese people as resolution to their perceived body images, and even though, from the surgeons' perspectives, these surgeries do have good outcomes in terms of weight reduction, numerous psychiatric complications may arise post surgeries. There are numerous studies done that consistently show higher rate of depression among obese people which may be one of the motivating factors to pursue surgery. However, after surgery, these people also have higher rates of depression, substance abuse, as well as suicide rate. This case study looks at a twenty-nine year-old single, never married, African American female who was pursuing a Masters in Public Injustice but became dependent on opioids after having gastric bypass surgery as well as numerous subsequent surgeries due to complications. For this specific population of patients, early recognition, frequent follow-ups, and timely treatment of psychiatric conditions should be provided to prevent subsequent detrimental deteriorations.

NR5-63
QTC PROLONGATION AND ARRHYTHMIA RISK IN VETERANS WITH OPIATE DEPENDENCE ON METHADONE MAINTENANCE TREATMENT

Lead Author: Sameer Hassamal, M.D.
Co-Author(s): Lillian Flores Stevens, PhD
Antony Fernandez, MD
Victor Vieweg, MD

SUMMARY:
Methadone, a synthetic opiate used in the treatment of opiate dependence prolongs the rate-corrected QT interval (QTc) and may result in torsade de pointes (TdP). Multiple studies have shown that a QTc >500 msec is a significant risk for TdP but the regulatory guidance suggests a sex-independent threshold for QTc prolongation of 450 msec. We studied the prevalence of risk factors for TdP in a veteran population and correlated those risk factors with QTc prolongation. A standard 12-lead electrocardiogram and clinical variables were collected. The QT interval was corrected using Bazett's formula. Statistical analysis was done using SPSS. Of the 49 veterans in treatment 47 were male. 38 (78%) were African American and 11 (22%) were Caucasian. 32 (65%) were unemployed. The mean age was 56.9 +/-6.48 years. The mean dose of methadone was 78.2 mg/day +/- 25.3 mg/day. 26 participants (53%) had QTc's at or below 450 msec, and 23 (47%) had QTc's above 450 msec. None of the participants experienced significant arrhythmias. 44 (90%) of the patients had a co-morbid substance use disorder with 14 (29%) using cocaine. 36 (74%) had a co-morbid psychiatric disorder. 24 (49%) were on antidepressants, and 4 (8%) were on antipsychotics. 6 (12%) had hypokalemia, 10 (20%) had hypomagnesaemia, and 1(2%) had hypophosphatemia. 26 (53%) had liver disease, 8(16%) had cardiac disease, and 9 (15%) had hypotestosteronism. A point-biserial correlation revealed no significant association between methadone dosage and QTc prolongation (r = .19, p = .19) or between age and QTc prolongation (r= .17, p = .24). Kendall's Tau correlations revealed no significant correlation between QTc prolongation and Potassium (? = -.18, p = .20), Magnesium (? = -.11, p = .48), Phosphate (? = -.15, p = .33), Heart disease (? = .25, p = .09) or with Liver function tests (? = -.10, p = .50). The Phi coefficient revealed no significant association between QTc prolongation and gender (? = -.19, p = .17), antidepressant medication (?= .14, p = .32), or with antipsychotic medication (? = .17, p = .24). Of the 53% of veterans who had QTc's greater than 450 msec, none experienced any fatal arrhythmias. The lower than average dose of methadone prescribed and the low prevalence of medical co-morbidities may explain the absence of cardiac arrhythmias as well as the absence of a correlation between any single particular risk factor including the methadone dose and the QTc. Opiate

treatment programs are challenged with integrating cardiac arrhythmia risk stratification. Expert panel recommendations will be discussed.

1) Barbhaiya, CR, Seewald RM, Hanon S. QT Prolongation and Arrhythmia Risk in Methadone Maintenance Treatment. The Journal of Innovations in Cardiac Rhythm Management. 2(2011). 566-568

2) Krantz MJ, Martin J, Stimmel B, Mehta D, Haigney MCP. QTc interval screening in methadone treatment. Ann. Intern. Med. 2009; 150:387-395.

NR5-64
ROLE OF PARIETAL LOBE IN SCHIZOPHRENIA: LONGITUDINAL STUDY OF GRAY MATTER VOLUME

Lead Author: Taiga Hosokawa, M.D., Ph.D.
Co-Author(s): Martha E. Shenton, Ph.D., Margaret Niznikiewicz, Ph.D., Robert W. McCarley, M.D.

SUMMARY:

Introduction

Some schizophrenia studies suggest progressive gray matter (GM) volume reduction in the frontal and temporal lobe in the patients. However, few studies have evaluated the parietal lobe despite the fact that it has an important role in attention, memory and thought which have been reported to be abnormal in schizophrenia.

Methods

To clarify how the parietal lobe is involved in the pathology of schizophrenia, we performed cross-sectional and longitudinal studies in first-episode schizophrenia (FESZ) and first-episode affective psychosis (FEAFF, mainly manic) patients. We examined GM volume changes of the parietal lobe by magnetic resonance imaging (MRI) scans. MRI scans with a 1.5-Tesla magnet were obtained from 21 FESZ and 24 FEAFF at first hospitalization for psychosis and 23 healthy control (HC) subjects matched for age, gender, parental socioeconomic status and handedness. They underwent follow-up scans approximately 1.5 years later on the same scanner. We segmented the parietal lobe into five subregions which are angular gyrus (AG), supramarginal gyrus (SMG), postcentral gyrus (PCG), superior parietal gyrus (SPG) and precuneus. Then we performed gyri-based manual drawing to calculate the volumes. We also analyzed the correlations between the changes of GM volumes and clinical symptom measures.

Results

Group comparisons revealed that the bilateral AG, PCG and precuneus GM volumes in FESZ patients were significantly smaller than those of HC subjects at the initial scans as well as the follow-up scans, while FEAFF patients didn't show any significant differences compared to HC. Longitudinally, the decreases of the bilateral AG were significantly larger than those of other subregions. Some changes of clinical scores of BPRS and PANSS including thought disturbance correlated with the GM volume changes.

Conclusions

Patients with new-onset schizophrenia showed smaller bilateral AG, PCG and precuneus GM volumes than healthy subjects even at the early stage of the illness. Longitudinally, the bilateral AG volumes decreased progressively after onset. FESZ patients showed progressive GM reduction in the inferior parietal lobe particularly localized to AG. The inferior parietal lobe is the brain region that plays a critical role as a biological substrate of thought. The inferior parietal lobe and precuneus belong to the default mode network which corresponds to self-referential thought. This suggests that the inferior parietal lobe may be a neuroanatomical substrate of thought disorder in schizophrenia. This finding contributes to more comprehensive understanding of the expression of schizophrenia.

NR5-65
EFFECTIVENESS OF FLUOXETINE (SSRI) AND NALTREXONE IN A PATIENT WITH BULIMIA NERVOSA

Lead Author: Swati Dhankikar, M.D.
Co-Author(s): James Roerig, PharmD
James Mitchell, M.D
Michelle Jorgensen, M.D

SUMMARY:

We are presenting a case of a 23 year old white female with bulimia nervosa binge purge type with 10-12 binge purge episodes a day for past 4 years. Psychiatric co morbidities include major depression and alcohol dependence. Patient was given a trial of fluoxetine (SSRI) titrated to 80 mg and Naltrexone 50 mg. There have been several studies on the use of either Naltrexone or fluoxetine (SSRI) in the treatment of bulimia nervosa but to our knowledge there have not been many studies published on the effectiveness of the combination of fluoxetine (SSRI) and naltrexone. In our patient after 4 weeks of treatment with 80 mg of fluoxetine (SSRI) and 50 mg of naltrexone there were significant reduction in urges to binge and purge with zero episodes of binging and purging while she was inpatient and during her partial hospital stay. Her course through outpatient is yet to be followed.

NR5-66
SELF-PERCEIVED BARRIERS TO TREATMENT FOR ALCOHOL USE PROBLEMS IN A NATIONAL SAMPLE

Lead Author: Savitha Puttaiah, M.B.B.S.

SUMMARY:

Objective: The aims of this study were to (a) describe latent classes of barriers to care among adults with a perceived need for treatment of alcohol problems in a large, nationally representative sample, and (b) to identify covariates that are associated with latent class membership.

Methods: Data were drawn from the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) and analysis was restricted to adults aged 18 and older who reported a perceived need for treatment of alcohol problems yet

did not obtain treatment (N=1,078). Latent class analysis was performed on NESARC items asking about barriers to receiving treatment for alcohol problems in order to identify classes of perceived treatment barriers. LCA was conducted in MPLUS version 6.12 and included survey sampling weights. The optimal number of classes was determined by comparing fit statistics, including AIC, BIC, Adj BIC and Entropy. Individuals were classified by their mostly likely class membership (as estimated by Mplus) and multinomial regression was performed in StataSE v 12.1 to identify variables associated with latent class membership.

Results: Preliminary results available indicated that the 2-class model was optimal. Most participants (88%) belonged to the "low barrier" group characterized by few reported structural or financial barriers. For these adults, the most commonly identified barrier was attitudinal, namely the belief that they should be "strong enough" to handle alcohol problems on their own. Another 12% of adults were assigned to the "high barriers" group, characterized by multiple barriers, including financial, structural and attitudinal barriers. Differences across these classes with regard to demographic variables, severity of alcohol problems and comorbid psychiatric conditions were assessed.

Conclusion: A better understanding of perceived barriers to care is vital for improving access and quality of services for alcohol use disorders. This research suggests that attitudinal barriers are common to most individuals who have not yet sought treatment. The study further highlights the existence of smaller subgroup that also perceives financial and structural barriers and who may require additional resources and support in order to enter treatment.

NR5-67
SERUM URIC ACID LEVEL AS A PREDICTOR FOR INSULIN RESISTANCE AND METABOLIC SYNDROME IN NON-DIABETIC PATIENTS WITH SCHIZOPHRENIA

Lead Author: Shirley Rajan, B.S., M.D.
Co-Author(s): Isheeta Zalpuri, MD. Isheeta.Zalpuri@umassmemorial.org (participant)
Xiaoduo Fan, MD. Xiaoduo.Fan@umassmed.edu (supervisor)

SUMMARY:

Objective:
Previous studies have shown that serum uric acid level is associated with insulin resistance and the development of metabolic syndrome in the general population. This study examined whether uric acid can be used in predicting insulin resistance, metabolic syndrome and LDL particle size in non-diabetic patients with schizophrenia.
Methods:
Outpatients 18 to 75 years old diagnosed with schizophrenia or schizoaffective disorder (DSM-IV criteria) and receiving olanzapine, risperidone, or typical antipsychotics participated in a multicenter, cross-sectional study. Fasting blood samples were obtained to determine the levels of glucose, insulin, lipids, lipid particle size and uric acid concentration. The study was conducted during July 2001 – March 2002.
Results:
One hundred thirty five patients were recruited for the study. A significant positive correlation was found between uric acid and the homeostasis model of assessing insulin resistance (HOMA-IR, log transformed, $r = 0.394$, $p < 0.00003$), and a significant negative correlation was found between uric acid and LDL particle size (log transformed, $r = -0.306$, $p = 0.001$) after controlling for potential confounding variables, including age, race, gender, family history of diabetes, body mass index, and antipsychotic agent used. Using regression analysis, uric acid explained 3.5% of variability of HOMA-IR ($p = 0.002$), 11.3% of variability of LDL particle size ($p<0.05$). Using logistic regression, we found that each of the potential confounding variables (including age, gender, race, family history of diabetes, smoking or antipsychotic use) lacked statistically significant contribution to the presence of metabolic syndrome; after accounting for variation of these confounders, uric acid entered into the logistic regression model as a significant predictor ($p = 0.004$) of metabolic syndrome.
Conclusion:
This study suggested that uric acid, a readily available measure, may be a clinically useful biomarker to indicate the risk of insulin resistance and metabolic syndrome in non-diabetic patients with schizophrenia.

NR5-68
SPECT IMAGING IN PSYCHIATRIC ILLNESS

Lead Author: Babur Hafeez Bhatti, M.D.
Co-Author(s): Dr Rohini Ravindran MD

SUMMARY:

Given the lack of objective measures involved in diagnosing psychiatric illnesses, various imaging modalities including Single Photon Emission Computing Tomography (SPECT) has started to gain popularity. Some areas where these imaging tools can be applied to are considering dopamine dysregulation in schizophrenia, monoamine function in depression, dementia, obsessive compulsive disorder, tourette syndrome and ADHD. There has been a lot of development in the area of radioligands which bind amyloid plaques to aid in early diagnosis and treatment of Alzheimer's disease. Brain SPECT essentially is a nuclear medicine study which allows one to see the blood flow to various parts of the brain to consider how well it is functioning in a particular area. One key reason why objective measures such as imaging modalities should be integrated into clinical practice is often psychiatric symptoms could be produced by organic causes which are often missed. For example, SPECT imaging proved to be useful in identifying toxic exposures, CNS neoplasms, head injury, seizure focus etc. which can all manifest as psychiatric illnesses. This poster serves to consider all the studies to date regarding the use of SPECT imaging in diagnosing psychiatric illness and elucidate a possible model of when these imaging modalities should be used clinically. While clinical integration has not yet occurred, it will likely be a future direction which the field of psychiatry will rely more heavily on to make more accurate diagnoses.

NR5-69
SUICIDAL IDEATION AND BEHAVIOR IN ADOLESCENTS AGED 12-16 YEARS: A 17-YEAR FOLLOW-UP

Lead Author: Benjamin Joffe
Co-Author(s): Ryan J Van Lieshout MD PhD FRCP(C) Offord Centre for Child Studies,
Department of Psychiatry and Behavioural Neurosciences, McMaster University

Laura Duncan MA Offord Centre for Child Studies,
Department of Psychiatry and Behavioural Neurosciences, McMaster University

Michael H Boyle PhD Offord Centre for Child Studies,
Department of Psychiatry and Behavioural Neurosciences, McMaster University

SUMMARY:
Introduction: Suicidal ideation and behavior are common problems among adolescents. Although completed suicide is one of the commonest causes of death in this age group, there is evidence that the ratio of suicidal ideation/behavior to completed suicide is very high. The high prevalence of suicidal behavior and the relatively low frequency of completed suicide does not exclude the possibility that suicidal ideation/behavior in adolescents may be associated with psychiatric and physical health problems in adulthood. A related concern is parental unawareness of adolescent suicidal behavior noted in small clinical samples. Evidence in general population samples on agreement between parent-teacher and adolescent assessments of youth suicidal ideation/behavior is sparse, although there are well known, large discrepancies between youth, their parents, and their teachers in the reporting of symptoms, particularly in the assessment of emotional problems.
Objectives: The objectives of this study were to: (1) estimate the prevalence and agreement on youth suicidal ideation/behavior as reported by adolescents in the general population aged 12-16 years, their parents, and their teachers; (2) examine family and youth characteristics associated with adolescent reports of suicidal ideation/behavior; and (3) quantify the strength of association between adolescent reports of suicidal ideation/behavior at baseline with their health and functioning assessed 17 years later, adjusting for their family socioeconomic circumstances at baseline and co-existing mental health problems.
Method: The data for this research come from the Ontario Child Health Study (OCHS), a prospective general population study of child health, psychiatric disorder, and adolescent substance use. The OCHS began in 1983, with follow-ups in 1987 and 2001. In this study, the prevalence of suicidal ideation/behavior in 1983 and its association with future mental health in 2000 was evaluated in 1248 adolescents aged 12 to 16 years.
Results: Approximately 13.3% (95%CI=11.5-15.3) of adolescents self-reported suicidal ideation/behavior. Adolescent agreement with parent (?=0.07) and teacher (?=0.05) reports was low because adults identified so few subjects with suicidal ideation/behavior. At follow up in 2000, when subjects reached adulthood, the predictive value of adolescent self-reports of suicidal behavior/ideation was accounted for by respondent sex and adolescent emotional problems.
Conclusions Adolescents, aged 12 to 16 years, in the community, have a high prevalence of suicidal behavior/ideation which is not recognized by significant adults in their life. Furthermore, adolescents with suicidal ideation or behavior may be at risk for persistent psychiatric and emotional dysfunction in adulthood.

NR5-70
SUPERIOR CHRONIC TOLERABILITY OF ADJUNCTIVE MODAFINIL COMPARED TO PRAMIPEXOLE IN TREATMENT-RESISTANT BIPOLAR DISORDER

LEAD AUTHOR: SARA TIMTIM, B.S.
CO-AUTHOR(S): BERNARDO DELL'OSSO, MD; FARNAZ HOOSHMAND, MD; SHEFALI MILLER, MD; PO W WANG, MD; SHELLEY J HILL, MS; NATALIE PORTILLO, MA; TERENCE KETTER, MD.

SUMMARY:
Background: Suboptimal outcomes are common in bipolar disorder (BD) pharmacotherapy, and may be mitigated with novel adjunctive agents such as modafinil (a low-affinity dopamine transporter inhibitor) and pramipexole (a dopamine D2/D3 receptor agonist). While uncontrolled long-term effectiveness data have been reported for these treatments, reports specifically assessing their comparative acute versus chronic tolerability in BD are lacking. Such information, particularly in relation to discontinuation causes, has substantial relevance, providing initial indications to clinicians which treatment may be better tolerated, and to researchers which agent ought to be assessed in longer-term controlled trials.

Methods: BD outpatients assessed with the Systematic Treatment Enhancement Program for Bipolar Disorder (STEP-BD) Affective Disorders Evaluation, and followed with the STEP-BD Clinical Monitoring Form, were naturalistically prescribed adjunctive modafinil or pramipexole, and somatic/psychiatric intolerability discontinuation rates were compared.

Results: Among 63 BD outpatients (mean±SD age 43.5±14.3 years, 60.3% female, 42.9% type I, 44.4% type II, 12.7% type not otherwise specified), taking 3.5±1.5 (median 3) concurrent prescription psychotropics, adjunctive modafinil (n=24) for 626.9±863.9 (286) days versus pramipexole (n=39) for 473.7±613.4 (214; p=0.51) days yielded a 26.0% lower somatic/psychiatric intolerability discontinuation rate (12.5% versus 38.5%; p<0.05), with most of the difference accounted for by more pramipexole somatic intolerability discontinuations, due to nausea and sedation, after the first 12 weeks of treatment.

Limitations: No placebo comparison group. Small sample of predominantly female Caucasian insured outpatients, taking complex concurrent medication regimens.

Conclusions: Further studies are warranted to assess our pre-

liminary observation that modafinil, compared to pramipexole, may be better tolerated for longer-term BD treatment.

Support: This research was conducted with support from the Pearlstein Family Foundation.

NR5-71
SURVEY OF DEPRESSION IN THE ELDERLY PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE

Lead Author: Seung-Hwan Sung, M.D.
Co-Author(s): Se-Hoon Shim, MD, Ph.D.; Young-Jun Kwon, MD, Ph.D.; Hee-Yeun Jeong, MD, Ph.D.; Hwa-Young Lee MD, Ph.D.;
Soyoung Irene Lee, MD, Ph.D.; Han-Yong Jung, MD, Ph.D.; Shin-Gyeom Kim MD; Kyoung-Sae Na, MD.; Hyun-Jung Park, MD; Se-Woong Kim, MD

SUMMARY:

Background

Elderly depression is not a common aspect of aging, so depression is one of the leading causes of suffering in the elderly if it is not treated in a timely manner. Depression are commonly comorbidity in the elderly patients with physical illness, and under-treated depression causes difficulty in performing social functions, which can lead to decrease quality of life. This study examined the prevalence of depression in the elderly with Chronic obstructive pulmonary disease

Method

The eighty elderly patients with chronic pulmonary disease were enrolled. The subjects are over 60 years old. The medical and psychiatric history, Hamilton Rating Scale for Depression(HDRS), Patient Health Questionare(PHQ-9), Geriatric Depression Scale-Short form Korean(GDS-SF-K), MMSE(Mini-Mental Status Exam) were investigated. Charlson Comorbidity Index(CCI), which predict the ten-year mortality for a patient who may have a range of co-morbid conditions, also investigated.

The Charlson comorbidity index predicts the ten-year mortality for a patient who may have a range of co-morbid conditions

Result

Of the 80 elderly patients, 52 patients were men, 28 patients were women. The mean age of subjects was 74.19±6.36 years(men 74.11±6.46 year ; women 74.32±6.28 year). The mean score of CCI was 2.36±1.90. The mean score of HDRS was 4.97±.4.30(men 4.42±4.17 ; women 6.07±4.42), PHQ-9 was 3.69±3.69(men 3.31±3.42 ; women 4.39±4.12), GDS-SF-K was 3.45±3.70(men 2.94±3.38 ; women 4.39±4.12), MMSE was 22.30±4.49(male 23.82±3.60 ; female 19.46±4.65). The prevalence of depression was estimated to be 25.6%(men 21.2% ; women 34.6%) in HDRS, 32.5%(men 26.9% ; women 42.9%) in PHQ-9, 23.8%(men 19.2% ; women 32.1%) in GDS-SF-K. The prevalence of cognitive dysfunction was estimated to be 37.5%(men 36.5% ; women 39.3%) The number of chronic physical illness (CCI) was not associated with the prevalence of depression(HDRS, P=0.572 ; PHQ-9, P=0.264 ; GDS-SFK, P=0.552).

Limitation

We examined 80 elderly patient, so probably these result is not sufficient to identify the prevalence of depression in the elderly patients with Chronic obstructive pulmonary disease .

Conclusion

These results showed that the prevalence of elderly depression with Chronic obstructive pulmonary disease ranged from about 20% to 30%, the prevalence of depression is two times more common in women. Although the number of chronic physical illness (CCI) was not associated with the prevalence of depression, further investigations with larger number of subjects are needed to clarify the association between the number of chronic physical illness and the prevalence of depression.

NR5-72
SYSTEMIC OXIDATIVELY GENERATED DNA/RNA DAMAGE IN CLINICAL DEPRESSION: ASSOCIATIONS TO SYMPTOM SEVERITY AND RESPONSE TO ELECTROCONVULSIVE THERAPY

Lead Author: Anders Jorgensen, M.D., Ph.D.
Co-Author(s): Anders Jorgensen1, Jesper Krogh1, Kamilla Miskowiak1, Tom G Bolwig1, Lars V Kessing1, Anders Fink-Jensen1, Merete Nordentoft1, Trine Henriksen2,3, Allan Weimann2,3, Henrik E Poulsen2,3, Martin B Jorgensen1.

1 Psychiatric Centre Copenhagen, University Hospital of Copenhagen, Denmark
2 Laboratory of Clinical Pharmacology Q7642, Rigshospitalet, Copenhagen, Denmark
3 Department of Clinical Pharmacology, Bispebjerg Hospital, Copenhagen, Denmark

SUMMARY:

: Depression has been hypothesized to accelerate aging. Oxidatively generated nucleic acid damage is a critical part of the aging process, and a suggested early event in age-related somatic morbidities that are also prevalent in depression, such as dementia and type 2 diabetes. We hypothesized that increased severity of depression is associated with increased systemic oxidatively generated DNA and RNA damage, and that this increase is attenuated by an effective antidepressant treatment.

Methods: The urinary excretion of markers of systemic oxidatively generated DNA and RNA damage, 8-oxo-7,8-dihydro-2'-deoxyguanosine (8-oxodG) and 8-oxo-7,8-dihydroguanosine (8-oxoGuo), respectively, were determined in healthy controls (N=28), moderately depressed, non-medicated patients (N=26) and severely depressed patients eligible for electroconvulsive therapy (ECT) (N=29). In the severely depressed patient group, samples were also obtained one week after the completion of ECT.

Results: Systemic RNA damage from oxidation, as measured by 8-oxoGuo excretion, was higher with increasing severity of depression (controls < moderately depressed < severely depressed) (P for trend = 0.004). The 8-oxoGuo excretion was further increased after clinically effective ECT compared with pre-ECT values (P = 0.006). There were no differences in 8-oxodG excretion between the groups or pre- vs. post-ECT.

Limitations: Small sample size and the inclusion of both unipolar and bipolar patients in the severely depressed group.

Conclusions: Severe depression is associated with increased systemic oxidatively generated RNA damage, which may be an additional factor underlying the somatic morbidity and neurodegenerative features associated with depression. Due to the lack of normalization by clinically effective ECT, the phenomenon does not appear to be causally linked to the depressive state per se.

NR5-73
TEMPERAMENT AND CHARACTER PATTERNS OF INTERNET PORNOGRAPHY ADDICTION ADOLESCENTS

Lead Author: Sang-Kyu Lee, M.D., Ph.D.
Co-Author(s): Yoon Jung Kim
Jong Hyeock Choi

SUMMARY:
Purpose: It is well known that addictive Internet using behavior is a serious psychological or social issues, especially, addictive behavior on pornography in adolescents might affect worsening of their problematic internet using patterns as well as their psychosexual development, deviated sexual norms, even changing their sexual behavior patterns. This study was attempted to look into the status, temperament and character profiles (TCI) and mood state of internet pornography addiction adolescents in the Korean middle school students and to compare with other substance use.

Methods: Participants were 665 middle school students who resided in Korean urban area. Participants were surveyed by Young's internet addiction scale, Junior Temperament character inventory, beck depression inventory and Internet pornography screening test. Participants were divided in to internet pornography at risk group and non-risk group according to score of internet pornography screening test, then compared demographic factor and characteristics of temperament and character and depressive score.
Results: Internet pornography at risk group was 6.6% in boys and 0.4% in girls. Characteristics of temperament and character were showed difference in Internet pornography at risk group (only in boys) that high novelty seeking (p=0.001), low reward dependenc (p=0.006), low self directedness (p=0.001), low cooperativeness (p=0.011), high depressive score (p=0.003). Internet pornography at risk group (only in boys) was higher current smoking rate (chi-square test, p=0.001), drinking rate (chi-square test, p=0.024), although there was no significance in academic achievement level
Conclusion: This study showed that Internet pornography would be prevalent problems as like as game addiction in boys. Internet pornography has similar patterns of other substance user's temperament and character (high NS, low RD, low SD, low CO, and high depressive score) and coexisting smoking and drinking in boy adolescents. This result suggests that variety of addictive behavior should be considered and managed for adolescents mental health.

NR5-74
TERMINAL DECLINE AND DELIRIUM IN RELATION TO DEMENTIA NEUROPATHOLOGY: RESULTS FROM TWO POPULATION-BASED COHORT STUDIES

Lead Author: Daniel Davis, M.B.
Co-Author(s): Graciela Muniz Terrera, MRC Unit for Lifelong Health and Ageing, UK
Alasdair MacLullich, MRC Centre for Cognition and Cognitive Epidemiology, University of Edinburgh, UK
Fiona Matthews, MRC Biostatistics Unit, Cambridge, UK
Carol Brayne, Institute of Public Health, University of Cambridge, UK
on behalf of the EClipSE Collaborative Members.

SUMMARY:
Background
Terminal decline describes a period of cognitive decline before death, typically over the last 3 to 8 years. Delirium is common in this population. We hypothesized that delirium might influence terminal decline, and that this might vary according to neuropathology findings in two population-based cohorts: the Cambridge City over-75s Cohort (CC75C) and Vantaa 85+ studies.

Methods
Participants, sampled from general practitioners' or electoral registers, were assessed at 2 to 4 year intervals with a standardized neuropsychological battery and followed up for 25 years (up to 9 surveys) in CC75C (mean age at entry 81) and for 10 years (up to 5 surveys) in Vantaa 85+ (mean age at entry 89). Delirium diagnosis (DSM-III-R) in CC75C was determined through retrospective informant interview, and in Vantaa 85+ by integrating information from participants, informants and hospital records. Brain autopsies were conducted in accordance with the Consortium to Establish a Registry for Alzheimer's Disease protocol and were performed blinded to clinical data.
Random-effects linear regression was used to model change in MMSE as a function of time to death. Intercepts were set at the median time last seen before death (1.3 years). Four pathological parameters were examined: Braak stage, neocortical amyloid, large infarcts, Lewy-bodies. Each was dichotomised (none-mild/moderate-severe). Terms for delirium were used to model the intercept and slopes, including a quadratic term to allow for non-linear trajectories. All models were adjusted by age at death and sex, and fit was analyzed using the Bayesian Information Criterion. Finally, interactions between delirium and pathology burden were assessed.

Results
536 participants had autopsy data (CC75C n=246; Vantaa n=290). Median time to death was 3.1 years. Mean MMSE at the start of decline was 18 points. Cognitive decline was non-linear (rate -0.96 MMSE points per year, -0.03 points for each additional year, p<0.01). Individuals with a history of delirium had worse initial scores (-3.9, p<0.01), but also demonstrated accelerated cognitive decline (-0.78 points per year, -0.03 points for each additional year, p<0.01).
When stratified by burden of pathology, the magnitude of this delirium effect was larger in those with little evidence of Alzheimer, vascular or Lewy-body pathology (adjusted ?=-0.54 v -0.22 points per year), with borderline evidence of an interaction between delirium and pathology (p=0.058).

Discussion
This is the first demonstration of the impact of delirium on terminal cognitive decline in the general population, and the first to relate this to neuropathology. A history of delirium is strongly associated with the rate of cognitive decline in the last years prior to death, and this is stronger in individuals with a lower burden of dementia pathologies. This suggests that where delirium is a determinant of terminal cognitive decline, this may not be mediated by conventional dementia pathology.

NR5-75
THE GOAL ATTAINMENT SCALING IN SCHIZOPHRENIA: THE ASSESSMENT OF NEW TECHNOLOGIES IN A REHABILITATION PROCESS

Lead Author: Virginie Dore-Gauthier, M.D.
Co-Author(s): Juliette Sablier PhD; Emmanuel Stip, md,

SUMMARY:
Schizophrenia is characterized by a myriad of symptoms: distortion of reality, disorganization, poverty of speech, affective and cognitive symptoms. Patients have difficulty to attain their goals in everyday life. To our knowledge, measuring this capacity for patients with schizophrenia is rarely specifically studied. The Goal Attainment Scaling (GAS) is an approach to transform concrete goals and their attainment in measurable data. The GAS permits to scale goals from -2 to +2, making actions measurable and giving the possibility for researchers to compare groups between or within them. We know that fixing attainable objectives is a strenuous task while rehabilitating psychotic patients. We used the GAS to assess objectives attainment in a rehabilitation process for patient with schizophrenia. To our knowledge it was the first time in 15 years that the GAS was used with psychotic patients.
We used the GAS with 47 participants in a study assessing the usefulness of technological devices (a Personal Digital Assistant (PDA) and a numeric pill dispenser called DoPill) in cognitive rehabilitation for psychotic patients. We used the GAS during the four follow-up sessions to assess the progression of patients in rehabilitation. The following describes the step-by-step technique to use the GAS in research: 1) Selecting the Goal with the patient; 2) Weighting the goal; 3) Defining time to goal attainment; 4) Describing baseline; 5) Describing the other outcomes; 6) Evaluating the GAS in research sessions. Some examples of goals that the participants chose will be included in this poster. We established together with the participants goals in different themes from daily life activities to finding a spouse and medication compliance. We used the method described by Turner-Stokes which enables the goals to be transformed into T-Score for our analysis. The main theme the patients chose for their goals was healthy life habits. A significant difference in the GAS score has been detected through the sessions (p<0,001).
We believe that the goal attainment scaling is a useful tool in a rehabilitation process for psychotic patient. It seems to motivate the patients toward their objectives. It is important to understand how to fix the objectives and weigh them appropriately, as better goal setting motivates the patients better. The GAS has not been used in research with schizophrenic patient in the last years. We believe that it is often overlooked because its utilization seems strenuous. However, our presentation here is to give a step-by-step guide that shows clinicians and researchers how to use easily the GAS.

NR5-76
THE POSSIBILITY OF FALSE- POSITIVE URINE SAMPLES FROM THE WIDESPREAD USE OF AN NSAID: A CASE REPORT

Lead Author: Heather Greenspan, M.D.
Co-Author(s): Valiveti, S, M.D. Berman, J, M., M.D., Sheikh, Sarah, M.D., Haroon Burhanullah , MD.

SUMMARY:
Introduction
This report highlights the possibility of a correlation between the use of NSAIDs and a false – positive urine drug screening for barbiturates and cannabis. False- positive urine drug screening for substances of abuse is infrequent, but does occur in a number of routinely prescribed and nonprescription medications. Some of these medications include anIntroduction
This report highlights the possibility of a correlation between the use of NSAIDs and a false – positive urine drug screening for barbiturates and cannabis. False- positive urine drug screening for substances of abuse is infrequent, but does occur in a number of routinely prescribed and nonprescription medications. Some of these medications include antihistamines, antidepressants, antibiotics, ibuprofen, naproxen, Vicks inhaler, and other agents.

Objective :
To establish the possibility of false - positive urine drug screening from common medications.

Case
A 48 year -old African American male presented to the Mentally Ill Chemically Addicted (MICA) partial hospitalization day program for a three month period of time, with a history of Heroin Dependence with Physiological Dependence, alprazolam Dependence with Physiological Dependence, Alcohol Dependence with Physiological Dependence in Sustained Full Remission, Cannabis Abuse, Prior history of Phencyclidine,

and Post Traumatic Stress Disorder, chronic. The last usage of alprazolam, cannabis, and heroin through the para nasal route was 3 weeks prior to the day of the intake.

The patient's urine samples were taken on a weekly basis from the beginning of his admission into the day program. The treatment team at the day program considered the patient a reliable historian, so the inconsistencies in the urine samples were a perplexity. In the beginning, the sample was positive for barbiturates, cannabis, and benzodiazepines. Since the patient had a history of abusing cannabis and benzodiazepines, it was consistent with what was expected. However, the barbiturate usage was unreported and a confusion for the staff and patient. Additional urine samples revealed negative results for benzodiazepine and opioids, but positive results for cannabis and barbiturates.

Discussion:

This patient in the case described had been using ibuprofen on a daily basis, while participating in the MICA partial hospitalization day program. To discern whether the patient was still actively using the substances, weekly urine samples were collected. The positive urine samples for cannabis and barbiturates were possible in the following situations: the patient had relapsed on illicit substances or it was a false- positive result. Due to the patient's trustworthiness, the treatment team had chosen to look into the possibility of a false- positive result.

Conclusion:
This case of false- positive urine sampling from the concurrent use of NSAIDs illustrates the importance of a careful patient history and confirmatory testing.

NR5-77
TOPIRAMATE REDUCES CRAVINGS IN A COCAINE DEPENDENT PATIENT: A CASE REPORT

Lead Author: Heather Greenspan, M.D.
Co-Author(s): Manoj Puthiyathu, M.D
A. Hussain, M.D.
Samrah Waseeem, M.D.
Bharat Nandu, M.D.
Jose Bravo, Medical Student III from Ross University
Onyechi Aginah, M.D.

SUMMARY:

This report highlights the reduction of cravings in a patient with a twenty- five year history of Cocaine Dependence, who has been prescribed topiramate. Currently, there is no pharmacological treatment approved to reduce cravings in Cocaine Dependence. Newer studies have revealed topiramate to exercise its anticraving action and abstinence through an increase in the GABAergic neurotransmission and inhibition of AMPA/ kainite receptor activity1. Topiramate had been initially used as an anticonvulsant, approved for migraine prophylaxis, and also prescribed for bipolar and post- traumatic stress disorders2.

We present a 48 year- old male who showed an evident reduction of cravings and a decreased time between relapses from cocaine usage. To determine if there was a salient reason for this desired result, a more detailed history of his lifestyle and recent modifications was obtained. The initiation of topiramate was the only noticeable difference in the patient's treatment plan. With the gradual increase in the dosage of the mood stabilizer, the patient's cravings for cocaine lessened.

There is a need for an increased awareness of the likelihood that topiramate may enhance the anti-craving effect and increased sobriety from cocaine

NR5-78
THE QUALITY OF CLOSE RELATIONSHIPS AFFECTS THE QUALITY OF SLEEP

Lead Author: G. Camelia Adams, M.D., M.Sc.
Co-Author(s): Lloyd Balbuen PhD
Tom Graham PhD

SUMMARY:

Background: Recent studies have shown an association between adult attachment style and qualitative and quantitative sleep changes. For instance attachment anxiety has been found to be associated with increased daytime sleepiness, sleep onset difficulties, sleep architecture anomalies, and also more reported nightmares. We explored a large US database for the relationship between several parameters targeting sleep and relationships quality, the latter considered to be at least partly reflective of the attachment style.
Method: Using data from the 2001 Collaborative Psychiatric Epidemiology Surveys (CPES), exploratory factor analysis was conducted on measures of sleep impairment and relationship quality. Factor scores for sleep impairment were calculated and regressed against relationship quality factors. Three factors were retained for sleep impairment comprising "sleep disruption", "feeling rested", and "daytime sleepiness" respectively. Two factors were retained as relevant for relationship quality and attachment style, specifically by looking at marital satisfaction and emotional connection with relatives and friends.
Results: 381 individuals had the chosen parameters collected and they were included in the regression models. Marital satisfaction was significantly associated with feeling rested. Poor emotional connection with relatives and friends was significantly associated with sleep disruption. These associations were independent of sex, age, and the presence of a mood disorder.
Conclusion: Our data supports a relationship between the quality of close relationships in one's life and the quality of their sleep, which is consistent with similar research on adult attachment style and sleep. This rather interesting but understudied relationship might have new implications in the management of sleep disorders. However further research is required in order to clarify this complex interaction.

NR5-79
THE RELATIONSHIP OF VARIOUS SCREENING TESTS AND DIAGNOSTIC CRITERIA WITH THE

FAMILY HISTORY OF ALCOHOLISM

Lead Author: Sohyun Lee, M.D.
Co-Author(s): Boung-Chul Lee, Jung-Seo Yi, Ihn-Geun Choi

SUMMARY:
Objective: Alcohol dependence is a very prevalent disease with heterogeneous etiology and there are many screening tests for alcohol dependence. Some of the patients has strong familial tendency so the family history of the patients could affect the score of screening tests and diagnostic criteria of the alcohol dependence. We assessed the importance of family history in the screening and diagnostic process of alcohol dependence by comparing the scores and criteria between the patients with and without family history.
Methods: We recruited 526 patients with alcohol dependence (150 with family history, 376 without family history) from 8 hospitals in Korea. Basic demographic data, CAGE, AUDIT and DSM-IV diagnostic criteria of each patient were assessed. The patients with and without family history were compared in the scores of screening tests and diagnostic criteria.
Results: The age, first drinking, uncontrollable drinking and problem drinking were earlier in the patients with family history. The CAGE score of Annoyed is higher in the patients with family history. The alcohol problem earlier than the age of 25-year-old, the frequency of spontaneous or compulsive alcohol-seeking behavior, and the frequencies of psychological dependence and guilt related to alcohol use are higher in the patients with family history.
Conclusions: The alcoholic patients with or without family history showed different scores in various screening tests and diagnostic criteria for alcohol dependence. We should consider the family history of patients in the process of screening and diagnosis of alcohol dependence for the correct assessment of alcoholic patients in the regard of heterogeneity of alcoholism.

NR5-80
THE ROLE OF FAAHC385A IN HUMAN THREAT ANTICIPATION

Lead Author: Francisco Jose Amador, M.D.
Co-Author(s): Carmen L. Cadilla Ph.D., Andrew Holmes Ph.D., Gregory J. Quirk Ph.D., Karen G. Martinez MD MSc

SUMMARY:
FAAH (fatty acid amide hydroxylase) breaks down the endogenous endocannabinoid anandamide. A common genetic variation (FAAHC385A, A-allele) results in 50% less enzyme activity and therefore increased endocannabinoid levels. In humans, the A-allele is associated with increased substance abuse (Sipe et al., 2002) and obesity (Zhang et al., 2009). A recent publication reports that healthy Caucasian A-allele carriers showed faster habituation during threat (Gunduz-Cinar et al., 2012). Our aim was to investigate fear conditioning, together with neuroticism and threat processing.

Forty-eight consenting healthy Hispanic adults (31 female, mean age 32) were screened with the Structural Clinical Interview for DSM-IV, matched by demographics, and grouped as A-allele carriers & C-allele non-carriers from saliva samples. Subjects completed the NEO Five Factor Inventory & State-Trait Anxiety Inventory (STAI) questionnaires, performed the Emotional Stroop Test (EST), and were trained in fear conditioning and extinction (Milad et al., 2005b)

Our Hispanic population showed a high A-allele frequency (A=0.40, C=0.60, Hardy-Weinberg Equilibrium x2=1.2, p=0.297). Both A-allele carriers & non-carriers expressed similar levels of conditioned fear (skin conductance response) during conditioning & recall of extinction phases. However, A-allele carriers showed higher levels of neuroticism (52 vs. 43; p=0.005), and delayed disengagement to threat words in the EST (-4ms vs. -26ms; p=0.024). They also chose lower shock levels (1.9mA vs. 2.7mA; p=0.014) for conditioning. There was no difference in STAI levels.

Findings from EST, neuroticism, and shock level suggest that Hispanic A-allele carriers have increased anticipation to threat, however, there were no differences in physiological fear responses. Therefore, FAAHC385A might increase subjective threat anticipation rather than autonomic expression of fear. The higher frequency of the A-allele within the Hispanic population suggests an increased risk for reward-related pathologies.

NR5-81
THE ROLE OF MEMANTINE IN THE TREATMENT OF PSYCHIATRIC DISORDERS OTHER THAN THE DEMENTIAS.

Lead Author: Muhammad Puri, M.D., M.P.H.
Co-Author(s): Fauzia Syed MD, Anthony Vasilov MD, Yerupa Reddy MD, Kush Patel, MD, Akbar, MD

SUMMARY:
Memantine is a non-competitve NMDA receptor antagonist, but, at variance with the most potent NMDA receptor blockers, such as Ketamine, Phencyclidine and MK-801, has a low affinity for the receptor and its action is voltage/use dependent (Gillin et al., 2009; Johnson & Kotermanski, 2006; Rammes et al., 2008) . Moreover it has been recently demonstrated that this compound selectively blocks the extrasynaptic (excitotoxic) receptor but preserves the normal synaptic function (La Spada, 2009). These peculiar pharmacological properties explain the lack of psychotomimetic/psychedelic effect and of interference with the normal physiological functions [memory and learning, synaptic plasticity, etc. etc. (Van Dongen, Editor, 2009)].
Memantine is increasingly being studied in a variety of non-dementia psychiatric disorders. This paper is aimed to critically review relevant literature on the use of the drug in animal models of psychiatric disorders and its effects in human studies of specific psychiatric disorders. A recent preclinical and clinical finding suggests that add-on Memantine may show antimanic and mood-stabilizing effects in treatment-resistant bipolar disorder.

NR5-82
THE USEFULNESS OF THE KOREAN VERSION OF PENN STATE WORRY QUESTIONNAIRE FOR SCREENING GENERALIZED ANXIETY DISORDER

Lead Author: Jae-Young Oh
Co-Author(s): Hee-Jin Park - Department of Psychiatry, Incheon medical center, Seoul, Republic of Korea
Ji-Hae Kim - Department of Psychiatry, Samsung Medical Center, Sungkyunkwan University School of Medicine
Jae-Hon Lee - Samsung Electronic Co. Kangbuk Samsung Hospital, Seoul, Republic of Korea
Bum-Hee Yu - Department of Psychiatry, Samsung Medical Center, Sungkyunkwan University School of Medicine

SUMMARY:
Excessive worry about minor matters and a state in which this worry is experienced as uncontrollable are known to be key symptoms of generalized anxiety disorder (GAD). Given the importance of pathological worry in GAD, the need for psychometrically sound measures of this construct has increased. The purpose of this study was to investigate the usefulness of the Korean version of Penn State Worry Questionnaire (K-PSWQ) for screening generalized anxiety disorder (GAD). Two hundred and forty six patients were initially screened, from which 102 GAD patients and 118 patients with anxiety disorder not otherwise specified (anxiety disorder NOS) were finally enrolled. Patients were diagnosed by a structured clinical interview for the DSM-IV Axis I. We also enrolled 114 control subjects who had no medical or psychiatric history. Pathological worry in both patients and control subjects were assessed at baseline using the PSWQ. We found that in the first receiver operating characteristic analysis, a score of 53 could simultaneously optimize sensitivity and specificity in order to discriminate GAD patients from control subjects. From the second receiver operating characteristic analysis, when both sensitivity and specificity were optimized, we can suggest a score of 61 as being the cutoff for differentiating GAD patients from patients with anxiety disorder NOS. Thus we finally conclude that the PSWQ is a useful method for screening Asian GAD patients, although the cutoff score of PSWQ for GAD needs to be changed according to the ethnic background of GAD patients.

NR5-83
THE PREVALENCE DIFFERENCE OF BIPOLAR I DISORDER CRITERIA B SYMPTOMS BETWEEN WITH ALCOHOL USE DISORDER AND WITHOUT ALCOHOL USE DISORDER

Lead Author: Shaocheng Wang, M.D., Ph.D.
Co-Author(s): R Mojtabai1, D Hasin2,3; 1Johns Hopkins University, Baltimore, MD, 2Columbia University, New York, NY, 3NYS Psychiatric Institute, New York, NY

SUMMARY:
Aims: Bipolar I disorder is highly comorbid with alcohol use disorders (alcohol abuse and alcohol dependence) but little is known about the associations between individual bipolar I disorder symptoms and alcohol use disorder. This study compares the prevalence of each bipolar I disorder Criteria B symptom in individuals with alcohol use disorders to those without alcohol disorders.
Methods: Participants with bipolar I disorder were extracted from National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) Wave 2 (2004-2005) and were further categorized into three groups based on the status of alcohol use disorders. The data were weighted. The study examined the difference in the prevalence of each symptom of bipolar I disorder Criteria B between two groups of individuals, those with alcohol use disorders and those without alcohol use disorders. Thirteen questions from NESARC questionnaire were used to assess bipolar I disorder Criteria B symptoms. Basic bivariate cross section analyses with chi-square tests were used and the analyses were stratified by gender.
Results: Of 1,062 participants with bipolar I disorder, 547 also had an alcohol use disorders and 515 did not. There were significant differences in affirmative responses to questions regarding having trouble concentrating because of little things going on around the person ($?^2$=8.94, P<0.05), becoming more sexually active than usual or having sex with people the person would normally not be interested in ($?^2$=11.16, P<0.05), and doing anything that that the person later regretted ($?^2$=23.17, P<0.01). In stratified analysis, there were significant differences in affirmative responses to questions in female population regarding becoming more sexually active than usual or having sex with people the person would normally not be interested in ($?^2$=10.99, P<0.05), and doing anything that that the person later regretted ($?^2$=14.61, P<0.01); there was only marginal significant differences in male population regarding doing anything that that the person later regretted ($?^2$=7.13, P<0.1).
Conclusions: An association between alcohol use disorders and symptoms indicative of poor judgment were found in female patients with bipolar I disorder. These analyses can contribute to evaluating the group bipolar female patients who are at higher risk of alcohol use disorders.

NR5-84
TRENDS IN PHARMACOTHERAPY IN PATIENTS REFERRED TO A BIPOLAR SPECIALTY CLINIC: 2000-2011

Lead Author: Farnaz Hooshmand, M.D.
Co-Author(s): Shefali Miller MD, Jennifer Dore MD, Po W. Wang MD, Natalie Portillo MA, Shelley J. Hill MS and Terence A. Ketter MD

SUMMARY:
Objective:
To assess trends in mood stabilizer (MS) and second-generation antipsychotic (SGA) prescriptions in bipolar disorder (BD) outpatients referred to a bipolar disorder specialty clinic over the past 12 years.

Methods:
BD outpatients referred to the Stanford University Bipolar Disorder Clinic during 2000-2011 were assessed with the Systematic Treatment Enhancement Program for BD (STEP-BD) Affective Disorders Evaluation. Rates of prescriptions of MSs and SGAs were compared during first (2000-2005) and second (2006-2011) six years.

Results:
Over 12 years, among 505 BD patients (mean±SD age 35.5±13.1 years; 58.2% female; 48.5% Type I, 51.5% Type II; with illness duration 17.6±13.3 years; and Clinical Global Impression for Bipolar Disorder-Overall Severity score 3.9±1.5; and taking 2.6±1.7 medications), lamotrigine, quetiapine, and aripiprazole usage more than doubled, from 15.6% to 38.4% ($p<0.0001$), 7.0% to 17.8% ($p=0.0005$), and 2.8% to 13.7% ($p<0.0001$) respectively, while olanzapine use decreased by approximately half from 16.5% to 8.2% ($p=0.0161$). SGA use increased significantly from 33.8% to 45.9% ($p=0.0146$), although MS use continued to be more common (in 68.3% for 2006-2011). Use of other individual MSs and SGAs and MSs as a class did not change significantly.

Conclusion:
Over 12 years, in patients referred to a BD specialty clinic, lamotrigine, quetiapine, and aripiprazole use more than doubled, and olanzapine use decreased by approximately half. Tolerability (for lamotrigine, aripiprazole, and olanzapine) more than efficacy (for quetiapine) differences may have driven these findings. Additional studies are needed to explore the relative influences of enhanced tolerability versus efficacy upon prescribing practices in BD patients.

Support:
This research was conducted with support from the Pearlstein Family Foundation.

NR5-85
UPDATE: REVIEW OF DEPRESSION IN BORDERLINE PERSONALITY DISORDER

Lead Author: Kei Yoshimatsu, B.S.
Co-Author(s): Brian Palmer, M.D.

SUMMARY:

Title
Update: A Review of Depression in Patients with Borderline Personality Disorder

Purpose
The relationship between Borderline Personality Disorder (BPD) and Major Depressive Disorder (MDD) remains unclear. While it is true that BPD patients often suffer from depression and meet the criteria for MDD, depression in BPD has some important differences from depression in non-BPD. The aim of this review paper is to survey the current literature on the interface of these two pathologies.

Methods
Two online databases, PubMed and Ovid Database PsycINFO, were searched using combinations of keywords “Borderline Personality Disorder” and “Major Depressive Disorder”. The studies used were limited to those in English, with a greater emphasis placed on more recent literature.

Results
[Epidemiology]: It is cited that the lifetime prevalence of BPD and MDD are about 5.9% and 16.2%, respectively. Both disorders have strong genetic and environmental contributions. [Neurobiology]: There are extensive studies that look at MDD on neuroanatomical, neurochemical, and neuroendocrine levels. Although studies on BPD are not as rich, findings suggest the activation of the amygdala and the limbic system and involvement of the serotonergic system. [Symptoms]: About 85% of BPD patients carry the codiagnosis of MDD. While many different personality disorders increase the risk of comorbid MDD, BPD has the strongest predictor. Multiple studies have shown that self-reported symptoms of depression are more severe in those with BPD compared to non-BPD patients with depression. While MDD depression is often characterized by helplessness and hopelessness, the aspects of depression most associated with BPD are self-condemnation, along with emptiness, abandoment fears, and self-destructiveness. [Treatment]: BPD patients do not respond as efficaciously to standard pharmacological treatments of MDD including antidepressants, antipsychotics, and mood-stabilizers. They are heavy users of resources compared to MDD patients. Interestingly, depressive symptoms in BPD seem to improve only when BPD itself improves. [Outcomes]: Several longitudinal studies have shown that remission is common and recurrence is rare in BPD. On the other hand, MDD is thought of an episodic disorder with recurrences more common than remittance.

Conclusion
It is not entirely clear whether or not depression experienced by BPD patients should be regarded as a separate MDD comorbidity or if it is actually an inseparable part of the BPD psychopathology. Compared to depression in MDD patients, we find that depression in BPD has different response profiles to traditional treatment modalities, has distinct remission and recurrence profiles, has different subjective symptomologies, and carry different suicide risks. Although these findings suggest that depression in BPD is dissimilar to that of non-BPD, more focused research are needed to elucidate the relationship.

NR5-86
VARIATION IN BRAIN-DERIVED NEUROTROPHIC FACTOR IS ASSOCIATED WITH ANTIPSYCHOTIC-INDUCED WEIGHT GAIN IN CHILDREN WITH AUTISM SPECTRUM DISORDER.

Lead Author: Aileen Nguyen
Co-Author(s): Samantha L. Spilman, James T. McCracken, Erika L. Nurmi, and the RUPP Autism Network

SUMMARY:
Background: The Research Units on Pediatric Psychopharmacology (RUPP) Autism Risperidone studies revealed that, while risperidone is an effective treatment for irritability and aggression in children with autism, antipsychotic-induced weight gain (AIWG) was a common side effect of drug exposure and varied substantially between individuals. Here, we examined whether individual genetic variation in the brain-derived neurotrophic factor (BDNF) gene influences AIWG in children with autism. Methods: In the NIMH RUPP (2002) and RUPP-PI (2009) Risperidone studies, 255 children (ages 4-17) received risperidone for severe irritability and aggressive behavior for 8 weeks as part of two randomized, controlled clinical trials. Weight gained was measured weekly as a common adverse effect. We tagged the common genetic variation across the BDNF gene to test association with AIWG. Results: The BDNF functional nonsynonymous Val66Met variant (rs6265) showed an allele dose-dependent association with weight gain ($p = 0.0005$). Val/Val homozygotes (N=124) showed the greatest, Met/Met homozygotes (N=5) the least, and Val/Met heterozygotes (N=48) an intermediate level of weight gained during 8 weeks of treatment at low risperidone dose (2mg/day). Conclusions: Our data suggest that genetic variation in BDNF may have an important role in predicting the common and treatment-limiting side effect of AIWG. Unraveling genetic factors contributing to AIWG could personalize and guide treatment algorithms and novel drug design.

NR5-87
VIOLENCE RISK ASSESSMENT AND MANAGEMENT IN PATIENTS WITH MENTAL ILLNESS AND INTELLECTUAL DISABILITIES

Lead Author: Kiran Majeed, M.D.
Co-Author(s): Muhammad Hassan Majeed , MD
Hillary O'Neill, MD
Branden Youngman, DO

SUMMARY:
INTRODUCTION:
There has been little research conducted about the risk of individuals with intellectual disabilities committing violence against others. Clinicians can help to minimize the risk of violence in these patients by performing good psychosocial assessments, as well as educating others to help change the social and cultural prospective of these individuals.

CASE REPORT:
A case of 39 year old female with mild mental retardation, schizoaffective disorder and a history of a seizure disorder was transferred from the prison to the hospital for uncontrollable seizures. The patient was incarcerated after being charged with the severe physical violence against one of the peer in a residential facility. She assaulted and tried to choke a 80 year old female peer so severely that the 80 year old patient was admitted to a surgical unit with multiple fractures.
On admission, her mood was "okay" with constricted affect. Her speech was impoverished with tangential thought process. In the hospital, patient reported that "she is not in a right state of mind." She admitted to auditory hallucinations "my father saying, he is coming to get me." She reported paranoid delusions, insomnia and periods of mania in the past. She was calm and cooperative during her hospital stay. Patient was on risperidone, phenytoin, valproic acid, leveteracetam, lorazepam, haloperidal and venlafaxine at the time of transfer to the hospital. Risperidone and valproic acid were continued and rest was discontinued as her seizeres were under control and psychosis improved as well.
The patient was in special education in school and only achieved a third grade education. She has never had sustained employment and supported herself with SSI. She is reported to have been physically, sexually and emotionally abused as a child and adult. The patient has a significant past psychiatric history that includes multiple suicide attempts and hospitalizations. She also has significant history of violence towards herself and others. She enucleated her one eye under the influence of command auditory hallucinations at age of 14. Pt stayed in the forensic unit few years ago for charges of pushing a man in the front of a truck.

CONCLUSION:
This case clearly illustrates the importance of violence risk assessment in the intellectually disabled and mentally ill patient population. The history of abuse as a child and adult, multiple previous suicide attempts, violence towards others including physical abuse puts her in very high risk violence category. Special residential facilities with highly trained staff to deal with violence and basic needs of the patients should be assigned for this population that are unable to take care of themselves but at the same time can be very aggressive. Prevention is the key here to avoid violence in these patients population.

NR5-88
WHAT'S THE DIFFERENCE BETWEEN ALCOHOL DEPENDENCE AND ON-LINE GAME ADDICTION?

Lead Author: Gi Jung Hyun, M.D.
Co-Author(s): Doug Hyun Han, MD, Ph.D., Jeong Ha Park, MD, Churl Na, MD, Ph.D.

SUMMARY:
Introduction
Recent brain studies have reported that patients with on-line game addiction (POGA) had pathologic response brain regions which were observed in patients with alcohol dependence (PAD). However, there were controversial to share same brain mechanism of addiction between on-line game addiction and alcohol dependence. We assessed the different brain response between patients with on-line game addiction and patients with alcohol dependence.

Methods
Thirty seven male patients with on-line game addiction and thirty five patients with alcohol dependence, and age and sex matched thirty three healthy control subjects were recruited. Between 24 and 48 hours of last playing game and drinking alcohol, resting-state functional magnetic resonance imaging (fMRI) data were collected from POGA, PAD, and control groups. In addition, brain activity in response to on-line

game cue or alcohol drinking cues was also assessed in all groups.

Results

At resting state, POGA and PAD groups had decreased perfusion in right prefrontal cortex (PFC) than healthy controls. PAD group showed increased synchrony of caudate and thalamus with anterior cingulate gyrus seed while POGA group increased synchrony of parahippocampal gyrus with anterior cingulate gyrus seed. In response to alcohol drinking cues, the activity of right PFC and caudate was increased. In response to on-line game cue, the activity of right PFC and anterior cingulate was increased.

Discussion

Current results showed the difference of alcohol dependence and on-line game addiction. Alcohol dependence showed reduced activity of frontal cortex (inhibitory control regions) with increased synchrony of appetitive drive regions. On-line game addiction showed reduced activity of frontal cortex (inhibitory control regions) with increased synchrony of input data control regions.

Education meaning

1. There was different brain response between behavioral addiction and chemical addiction.
2. Alcohol dependence showed reduced inhibitory control regions with high appetitive drive.
3. On-line game addiction showed reduced inhibitory control regions with elevated input data control.

NR5-89 WITHDRAWN

NR5-90
WILL THEY DO IT? IMPLEMENTING A QUALITY IMPROVEMENT PROJECT IN A PSYCHIATRIC RESIDENT CLINIC

Lead Author: Christopher Rodgman, B.A., M.D.
Co-Author(s): Gayle Pletsch MD, Myo Myint MD, John Roberts MD, Ndidi Onyejiaka MD, Dustin DeMoss DO, Elizabeth Jensen MD, Ashley Doucette MD, Janet Johnson MD, Sarah Ryals

SUMMARY:

Background: The Affordable Care Act seeks the coordination of care from multiple specialties. Studies indicate mental health patients live 25 years less than the general population, and patients who have mental health concerns addressed cost significantly less in healthcare costs. As part of our quality improvement project, we asked residents in our psychiatric training clinic to take vital signs on 50% of their med management and therapy patients during a three month period. We have no nursing staff to collect vital signs, so it must be done by the residents themselves.

Aims: Our goal was to measure the compliance rate and gather information on potential barriers to taking vital signs on these patients.

Methods: We implemented a study and gathered data on whether or not vitals were taken and what barriers were to taking vital signs. Through a retrospective chart review, data was gathered only on adult patients between the ages of 18 and 80 seen during the period of March 1st, 2012 and May 31st, 2012. Patients and residents were assigned ID numbers. We collected information on how many patients were seen, how many times each patient was seen, and whether or not vital signs were taken on those patients. The 12 residents filled out a questionnaire on potential barriers to taking vital signs in this clinic environment.

Results: In terms of compliance, only 3 out of 12 residents met the 50% compliance rate taking vital signs. The questionnaire showed the most common barriers were time constraings (75%) and resident felt unnecessary to take vital signs (50%).

Discussion: Coordinating care between primary care and psychiatric services is of tantamount importance as the Affordable Care Act is implemented. Our study indicated residents were hesitant to implement the inclusion of vital signs on their own, with only 25% of residents responding meeting the 50% vital sign collection goal. The data shows time is the main factor in residents not taking vitals with 75% responding that time constraints kept them from taking vitals. The residents felt it was unnecessary to take vital signs, with 50% of residents answering in this fashion. Disturbingly, this may indicate a lack of understanding in the resident community about the importance of integrating primary medical care into the psychiatric treatment of outpatients.

Conclusion: Integrating psychiatric and primary care is necessary in the era of the Affordable Care Act. Our study shows several barriers, especially time constraint, to incorporating basic care into out-patient psychiatric visits. Even highly trained, well-meaning residents had significant difficulty integrating basic primary care standards into patient encounters, supporting previous evidence of decreased life expectancy of those with psychiatric illness. Techniques to combine basic care standards in the out-patient psychiatric setting and finding solutions to the barriers mentioned above are areas of future research.

NR5-91
ZOLPIDEM DEPENDENCE

Lead Author: Adil A. Mohammed, M.D.
Co-Author(s): (2) Nima Sharif, M.D.
(3) Carolina Retamero, M.D.
(4) John Harding, M.D.

SUMMARY:

Objective:

Zolpidem is one of the most commonly used sedatives to treat insomnia. Although viewed as a safe alternative to benzodiazepines, it has been suggested that Zolpidem use in excess of the prescribed dose have the same risk of addiction of benzodiazepine use. The authors present the case of a patient who used more than 300mg of Zolpidem per day since 2007.

The patient had physical symptoms that were consistent with dependency, including severe anxiety, uncontrollable crying spells and tremor. The patient received detox treatment and continued outpatient psychiatric treatment.

Methods:

The PubMed and OVID databases were searched using the following keywords: Zolpidem abuse, Zolpidem dependence, benzodiazepine dependence, Zolpidem withdrawal

Results:

Zolpidem is being increasingly abused, and one study found a 155% increase from 2004 to 2009 in the mention of Zolpidem in hospital emergency departments. Zolpidem use has been associated with increased risk of mortality, accidental injury due to hangover sedation, sleep-related eating disorder, gastro esophageal regurgitation and significant potential for dependence, leading to withdrawal symptoms which can include seizures. Studies have shown that the mean treatment duration of 30 months is more likely to lead to dependence. There is variability of patient responses to Zolpidem use including tolerance and lack of sedative effect. This can be explained by changes in the expression of genes encoding various alpha or gamma subunits of GABAa receptor which affect the receptor affinity to the point of the site loosing its activity and resulting in differences in sensitivity. It has been proposed that this sort of mutation can be a risk factor for Zolpidem abuse.

Conclusion:

Zolpidem dependence is becoming more prevalent and there are expanding studies regarding adverse effects, and the signs and symptoms of withdrawal. Patients must be evaluated for possible abuse of prescribed medications and educated regarding the adverse effects. Patients who are using high doses of Zolpidem must receive detoxification treatment prior to discontinuation of the medication.

NR5-92
A CASE OF LOW DOSE QUETIAPINE-INDUCED NEUROLEPTIC MALIGNANT SYNDROME IN A PATIENT WITH FRONTOTEMPORAL DEMENTIA

Lead Author: Samina S. Raja, M.D.
Co-Author(s): Cheryl A. Kennedy, MD, DFAPA; Dr. Cecilia Fleser, MD

SUMMARY:

Background: A 59 yr old man with a three year history of frontotemporal dementia (FTD) was admitted to a VA hospital for altered mental status, fever (101.4F), and muscular rigidity. He had recently been admitted to a psychiatric unit for behavioral disturbances and discharged two weeks prior to presentation. Discharge medications included: quetiapine 50mg twice daily, benztropine 0.5mg daily, valproic acid 250mg every eight hours, citalopram 60mg daily, lorazepam prn, memantine 10mg twice daily, and trazodone 100mg nightly. Pt was admitted to the medical intensive care unit for presumed neuroleptic malignant syndrome (NMS). He had elevated creatine kinase (CK, 5906), hypernatremia (Na+, 157), elevated liver enzymes (AST, 162 and ALT, 68), and elevated blood urea nitrogen and creatinine (BUN, 41.5 and Cr, 1.3). Head CT and lumbar puncture results were negative. Pt received four doses of dantrolene. He received three days of vancomycin and ceftriaxone empirically for meningitis. Serum Na+ and Cr normalized, CK trended down, fever resolved, and mental status improved. He remained hemodynamically stable and after two days was transferred to the medical floor for further management. He received kayexalate for hyperkalemia and received nasogastric tube feeds. He was discharged after 46 days. Currently, the patient is in a VA long term care unit and is no longer receiving antipsychotics and is on valproic acid, sertraline, memantine, lorazepam, and Trazodone.

Discussion: NMS is a neurological emergency characterized by altered mental status, hyperthermia, muscle rigidity, and autonomic instability. Incidence in the U.S. is 0.07-2.2% (1). It is associated with every class of antipsychotic medication, however, it is most often caused by typical high potency antipsychotics. Fourteen cases of NMS have been reported with quetiapine (2). NMS can occur after a single dose or after continued treatment with the same dose for many years. It can also be seen after sudden withdrawal of dopamine agonist therapy for parkinsonism (1). This case, however, is a very interesting presentation of NMS, because it occurred at a dose of 50 mg twice daily, which is 12.5% of the recommended maximum dose (3). Also, at low doses, quetiapine acts primarily only on histamine (H1) and serotonergic (5HT2A) receptors (4). This case demonstrates clinicians must be extremely cautious with presumably safe, low doses of quetiapine--especially, when there is a co-morbid neurological disorder (in this case, FTD).

1. http://www.uptodate.com/contents/neuroleptic-malignant-syndrome (12/4/12)
2. http://www.ncbi.nlm.nih.gov/pubmed/19299325 (12/4/12)
3. http://psychrights.org/Drugs/SeroquelLabel(2007).pdf (12/4/12)
4. http://bipolarnews.org/?p=251 (12/4/12)

NR5-93
TRAZODONE-INDUCED HEPATOTOXICITY ASSOCIATED WITH THIORIDIZINE INHIBITION OF TRAZODONE METABOLISM

Lead Author: Samina S. Raja, M.D.

CO-AUTHOR(S): DR. CHERYL A. KENNEDY, MD, DFAPA; DR. SAMUEL O. SOSTRE, MD

SUMMARY:

Background: A 29 yr old Caucasian man with schizophrenia and mental retardation was seen for pre-liver transplant psychiatric evaluation after presenting with acute onset of jaundice and hepatic encephalopathy. He had elevated liver enzymes: alkaline transferase (ALT, 1890), aspartate aminotransferase (AST, 473), alkaline phosphatase (ALP, 900),

bilirubin (18), and INR (3.1) coincidental with approximately three months of trazodone therapy. Other medications were thioridazine (on and off for about 10 years, but consistent use over the past two years), benztropine, hydroxyzine, lorazepam, and alprazolam as needed. Immediate management included ruling out all causes for acute liver injury and intravenous fluids, rifaximin and lactulose. Rhabdomyolysis was ruled out with a creatine kinase of 36. Epstein Barr virus and Cytomegalovirus IgM titers, antinuclear, HIV and HCV antibody tests were negative. Alpha anti-trypsin was within normal limits. Patient had liver biopsy and stress test for a full cardiac workup for a possible liver transplant listing as his enzymes showed little improvement over nine days in hospital. CT abdomen showed a mildly nodular liver contour, suggestive of some degree of fibrosis, with no suggestion of a hepatocellular carcinoma. His outpatient psychiatrist confirmed patient had started trazodone about three months prior to onset of jaundice. His caregiver mother confirmed there was no history of hepatotoxicity on thioridazine before starting trazodone. During hospital course, patient's encephalopathy resolved and coagulopathy improved (INR 1.6). He received low doses of haloperidol for hallucinations, but did not require any PRN medications. He was discharged after nine days with outpatient follow-up in liver transplant clinic.

Discussion: It is well known that trazodone is metabolized extensively in the liver by the CYP3A4 enzymes (1). The literature suggests CYP2D6 may also be involved in the metabolism of trazodone: a Japanese study found elevated plasma levels of trazodone after co-administration with thioridazine (2). Furthermore, six cases in the literature describe trazodone-induced hepatotoxicity (3). Our case is unique because it demonstrates a case of trazodone-induced hepatotoxicity specifically via drug-drug interaction of thioridazine and trazodone and is the second case to suggest CYP2D6 metabolism of trazodone.

1. http://livertox.nih.gov/Trazodone.htm (12/1/12)
2. http://www.ncbi.nlm.nih.gov/pubmed/7482685 (10/18/12)
3. http://www.ncbi.nlm.nih.gov/pubmed/10685763 (12/1/12)

NR5-94
PREVALENCE OF CHLAMYDIA, GONORRHEA, AND HIV IN DELINQUENT YOUTH AS YOUTH ENTER ADULTHOOD: A LONGITUDINAL STUDY

Lead Author: Dovie Watson, B.A.
Co-Author(s): Jessica Jakubowski, MS
Leah J. Welty, PhD
Linda A Teplin, PhD
Karen M Abram, PhD

SUMMARY:
Objectives. To determine the prevalence rates of chlamydia, gonorrhea and HIV among delinquent youth as they enter adulthood (aged 20-28) and the influence of routine testing for chlamydia and gonorrhea on prevalence rates of these STIs in subsequent interviews.

Methods. We used testing data from the Northwestern Juvenile Project, a longitudinal study of youth randomly selected at intake from Cook County Juvenile Temporary Detention Center in Chicago, IL between 1995 and 1998. A subsample of n=800 participants was screened for the presence of Chlamydia trachomatis and Neisseria gonorrhoeae in urine samples and antibodies to HIV-1 in oral mucosal transudate specimens. The data were analyzed using the STATA statistical package to obtain the prevalence rates.

Results. Chlamydia rates were comparable to those among similarly aged males and females in the general population; however, African American females in our samples had significantly lower rates than African American females in the general population. Gonorrhea rates were too low to compare rates to those among youth in the general population. The prevalence rate of HIV among males in our sample was markedly greater than rates among males of similar ages in the general population; and the prevalence rate among non-Hispanic Black delinquent youth was higher than the general population. The prevalence rate of chlamydia among females of every race/ethnicity decreased markedly with subsequent testing; however, prevalence rates among males remained the same or increased for all racial/ethnic groups.

Conclusions. In general, rates of chlamydia and gonorrhea were not substantially different from those among similarly aged males and females in the general population. The prevalence of HIV among delinquent youth appears higher than the rate of youth of similar ages in the general population. Female delinquent youth appeared to benefit from subsequent testing; however male delinquent youth did not.

POSTER SESSION 6
PSYCHIATRIC SUB-SPECIALTIES AND OTHERS

NR6-01
"AND THEN I WOKE UP IN JAIL": AMNESIA CLAIMS IN COURT-ORDERED EVALUATIONS

Lead Author: Susan Hatters-Friedman, M.D.
Co-Author(s): John Preston Shand; Renee M. Sorrentino, MD; George W. Schmedlen, PhD, JD

SUMMARY:
Introduction: Although the majority of people who are accused of crimes are able to give some account of the events surrounding an alleged crime, there are many defendants who claim interrupted memory which overlaps all of or parts of an alleged crime. This descriptive pilot study seeks to examine the characteristics of defendants who claim amnesia. In agreement with previous literature, we expected claims of amnesia to be fairly common in the population of people sent for evaluation to a court psychiatric clinic. Based on clinical experience, we also expected that claims of amnesia would rarely impact competency.
Method:?Data was obtained from (n=168) court cases from the Cuyahoga County Court Clinic in Cleveland Ohio for which amnesia was claimed for all of or part of an alleged crime. Sanity and competency reports from 2001-2011 were searched for the term 'amnesia' and included in the study if

the defendant claimed amnesia for any part of their crime. Data about the defendant was then extracted from the court documents, including: age; sex; crime; Axis I and II diagnoses; substance use; type of amnesia claimed; legal history; history of traumatic brain injury; relationship to victim and psychological testing. The data was then analyzed to assess for commonalities.
Results: Defendants claiming amnesia had a mean age of 36 years, and were primarily male. The majority were facing charges for violent felonies, and claimed full amnesia for the crimes. Most defendants had a legal history. Most were opined by psychiatric examiners to be competent to stand trial, despite their alleged amnesia, and had substance use disorders.
Discussion: Offenders who claim partial or total amnesia for their crimes are not rare; 20-45% of individuals charged with a serious crime claim amnesia. The crimes most frequently associated with claims of amnesia are homicide and to a lesser extent domestic violence, sexual offenses and fraud. This study more fully describes the characteristics of those defendants claiming amnesia, who are ordered by the courts for evaluation, as well as establishing that the amnesia often did not lead to findings of incompetency. Further studies in this area would be helpful in the understanding the decision-making in competency evaluations with amnestic defendants.

NR6-02
JUDICIAL BYPASS FOR PARENTAL CONSENT FOR ABORTION: JANE DOE EVALUATIONS AND OUTCOMES

Lead Author: Susan Hatters-Friedman, M.D.
Co-Author(s): Todd Hendrix, PhD
Abhishek Jain, MD
Jessica Haberman, MA

SUMMARY:
Pregnant minors can obtain abortions without parental consent through a judicial bypass procedure in 35 states. To grant such a petition in Ohio, the Court must determine that the young woman is either "sufficiently mature and well enough informed to intelligently decide whether to have an abortion," or that notification of her parents is "not in her best interest" due to reasons such as abuse. For the sake of anonymity in these politically charged cases, the evaluee is referred to as Jane Doe. Mental health professionals seeking guidance from scientific research to prepare themselves for this politically charged process will find few resources. A mental health professional may apply general principles of informed consent, such as ascertaining whether the decision is made voluntarily, knowingly, and with sufficient decision-making capacity. This project seeks to describe, both quantitatively and qualitatively, characteristics of teenagers who are seeking judicial bypass for abortion, which has not been well-described in the literature. Early results (N=28) indicate a mean evaluee age of 16.4 years. The vast majority (93%) were successful in their pursuit of a judicial bypass. Median age of their first sexual experience was 15 years. Over one-fifth (22%) had a prior pregnancy. Data collection continues and results will be analyzed for commonly occurring characteristics.

NR6-03
A NOVEL DRUG HARM INDEX IS ASSOCIATED WITH PHYSICAL, PSYCHOLOGICAL AND SOCIAL HEALTH MEASURES: A PROSPECTIVE COHORT STUDY

Lead Author: Andrea Jones, B.Sc.
Co-Author(s): Fidel Vila-Rodriguez, M.D. 1, Karine Paquet, M.D. 1, Alasdair M. Barr, Ph.D.2, Ric P. Procyshyn, Ph.D.1, Donna J. Lang, Ph.D.3, Allen E. Thornton, Ph.D.4, Michael Krausz, M.D.,Ph.D.1, G. William MacEwan, M.D.1., Geoffrey N. Smith, Ph.D.1, William J. Panenka, M.D.1 and William G. Honer, M.D.1
1- Department of Psychiatry, University of British Columbia, Vancouver, Canada
2- Department of Anesthesia, Pharmacology & Therapeutics, University of British Columbia, Vancouver, Canada
3- Department of Radiology, University of British Columbia, Vancouver, Canada
4- Department of Psychology, Simon Fraser University, Burnaby, Canada

SUMMARY:
INTRODUCTION: The evaluation of drug-related harms is critical in understanding the complex health needs of drug using populations. The Independent Scientific Committee on Drugs (ISCD) proposed a scoring system for harm related to specific drugs, but the application to individual users is untested.

METHODS: A prospective community sample (n=286) of adults living in single room occupancy hotels in Vancouver, Canada were assessed for non-prescribed substance use, psychiatric illness, liver function, psychosocial functioning, and criminal behaviour. Composite Harm Score (CHS) is a novel harm index that incorporates the ISCD's drug harm scoring system and participants' substance use characteristics to reflect the overall harm associated with an individual's drug use pattern. Logistic, linear and quasi-Poisson regression models were used to estimate the association between CHS and physical, psychological and social health measures.

RESULTS: Polysubstance use was pervasive in this sample (95.8%). Tobacco, crack cocaine and cannabis were the most common substances used. Median CHS was 2826.4 (IQR 1847.0 – 3972.5). Adjusting for age and sex, every 1000-unit increase in CHS was associated with increased odds of mortality (OR 1.49, 95% CI 1.09-2.05, p=0.012), abnormal aspartate aminotransferase (AST) levels (1.27, 1.07-1.51, p=0.005) and persistent hepatitis C infection (1.34, 1.03-1.80, p=0.036). For every 1000-unit increase in CHS, the number of dependence diagnoses increased by a factor of 1.17 (1.14-1.20, p<0.0001) and the odds of having a substance-induced psychosis diagnosis increased 1.38-fold (1.14-1.69, p=0.001). However, the odds of having a functional psychosis diagnosis decreased 0.69-fold

(0.52-0.88, p=0.005). For every 1000-unit increase in CHS, the amount spent on non-prescribed substances increased 1.48-fold (1.38-1.58, p<0.0001) and the odds of committing a crime in the previous month increased 1.71-fold (1.43-2.06, p<0.0001).

CONCLUSIONS: CHS is associated with several physical, psychological and social health concerns and may be useful in evaluating the multidimensional impact of harmful substance use.

NR6-04
ACCEPTABILITY AND TOLERABILITY OF MENTAL HEALTH TELEMETRY FOR LONGITUDINAL MOOD MONITORING IN TEENS

Lead Author: David M. Kreindler, B.Sc., M.D.
Co-Author(s): Charles J. Lumsden, PhD (University of Toronto)
Anthony Levitt, MD FRCPC (University of Toronto)
Nicholas Woolridge, BFA, BScBMC, MSc, CMI (University of Toronto Mississauga)
Jasna Deluce, BSc (Saba University School of Medicine)

SUMMARY:

Background: Teens' compliance with long-term paper-and-pencil symptom monitoring is generally poor. We have developed "Mental Health Telemetry" (MHT) electronic diary software for self-report symptom tracking using cell phones. This study investigated whether MHT is acceptable and tolerable for long-term mood monitoring in teens with affective illness. Methods: We adapted our existing MHT software for a mass-market cell phone, and augmented it with 'Life Event Browser' (LEB) software for reporting on significant life events. To investigate tolerability and acceptability of MHT and the LEB in teens, we recruited (n=33) participants ages 14-20 (22 female; 11 male; mean age = 16±2 years) self-identifying as either 'healthy' (n=11) (i.e. 'controls') or suffering from 'severe mood swings' (n=22) (i.e., 'patients') using posters and word-of-mouth in a teaching hospital and from the community. The SCID or KID-SCID was used to identify DSM-IV Axis I disorders, as was the MSI-BPD for Axis II. Participants were asked to use MHT to complete daily self-report mood symptom questionnaires (using visual analog scales to rate DSM-IV symptoms of mania and depression, as well as other items of interest), and to use the LEB to record any significant events that occurred which affected their mood. Results: One recruit was ineligible (with a prior diagnosis of ADHD but no mood swings); two never started reporting data. At or prior to Month 3, 5/19 patients and 1/11 controls dropped out – 5/21 females and 1/9 males; no participants dropped out after their third month in the study. The mean enrollment length of completers was 251±37 days (n=24); the mean number of reports returned over the course of enrollment by completers was 178±61, for a mean reporting rate of 71±24%. More than one questionnaire per day was submitted on approximately 20% of days. The mean number of life events reported per day using the LEB was 11±22%; the number of LEB's per subject was roughly power-law distributed. Plots of the significance ratings of life events revealed individualized censoring of sub-threshold events by participants, consistent with instructions to participants. There were no significant (p<0.05) differences in age, reporting rates, number of life events reported, or enrollment length between patients and controls. Key obstacles to recruiting were participants' already owning an incompatible cell phone and concerns about fully meeting study responsibilities. Conclusions: Our results suggest that MHT is acceptable and tolerable for long-term mood monitoring in a subgroup of teens with mood swings, with reporting rates comparable to those of adults using MHT. The LEB reporting rate skew suggests differential levels of motivation for life event tracking among our participants; differences in reporting thresholds and / or degree of mood instability across subjects may have influenced these rates. Development of a platform-independent version of MHT should enhance recruitment.

NR6-05
AN ELECTRONIC MEDICAL RECORD TEMPLATE IMPROVES THE FREQUENCY OF LABORATORY MONITORING FOR PATIENTS ON ATYPICAL ANTIPSYCHOTIC

Lead Author: Suraj Pal Singh, M.D., M.Sc.
Co-Author(s): Travis Fisher MD, Mara Pheister MD

SUMMARY:

Background and Purpose:
Metabolic syndrome is associated with an increased risk of mortality that can be up to 4 times that of the general population. Its prevalence in patients treated with atypical antipsychotics has been estimated to be as high as 42% while current monitoring guidelines are only followed between 10-22% of the time. We introduced a pre-written plan in a standard note template to improve both clinical care and trainee's education about monitoring these critical parameters.
Methods:
367 patient charts were reviewed to establish individuals treated with atypical antipsychotics and to assess for laboratory monitoring between June 30th 2009- June 30th 2010. The primary outcomes of interest were orders placed for blood glucose and serum lipids. Outcome was measured as either complete (yes), partial (if one and not both were obtained) or not completed (no). The presence or absence of a completed plan was also noted as well, both before and after the change in note template. The study was approved by the Institutional review board of the Medical College of Wisconsin, Milwaukee.
Under the "Treatment Plan", one line was added to our template to prompt physicians to consider lab monitoring parameters in their plan.
Treatment Plan:
1. Medication:
2. Monitoring :"Medication monitoring recommended. {labs} will be checked {time frame}"
3. Psychotherapy:
4. Medical:
5. Return to Clinic:

Risk/Benefit:
The risks of this study to patient care were minimal to none, as no biological or psychological intervention was performed on them in this QI review of an EMR intervention.
Statistical Analysis:
Sign test and McNemar test (non parametric) were used to calculate changes with the intervention. Fisher's exact test was used to find the correlation between documentation and likelihood of laboratory monitoring being done.
Results:
A total of 127 were enrolled in the clinic before the introduction of template.
29% of patients had some lab monitoring before the introduction of the template, which increased to 53% after the template was introduced. Documentation of lab monitoring increased from 13% to 64% (p =0.0001) along with increased probability of completed plan for patients from 14% to 64%. We also found that there is a strong positive correlation between documentation and the likelihood of required laboratory monitoring done.
Discussion
The results indicate improved laboratory monitoring along with a significant improvement in documentation. While, we acknowledge that the study period was relatively short and that there was a 28% drop out rate, we believe this template will improve:

- Resident knowledge of the importance of medication monitoring
- Implementation of evidence-based medicine in the clinical setting
- The potential need to alter medication therapy based on individual patient needs

Patients will benefit from evidence based care aimed at reducing their cardiovascular morbidity and mortality.

NR6-06
ASSESSMENT OF COGNITIVE FUNCTION AND IMPULSIVITY IN THE PSYCHIATRIC EMERGENCY ROOM: A PILOT STUDY

Lead Author: John Evenden, M.B.A., Ph.D.
Co-Author(s): Singh, H
Chaudry, N
Majeed, K
Sanuck, N
Gluzman, E
Morrison, MF

SUMMARY:

With rising healthcare costs and the focus on personalized medicine, using resources efficiently is critical to providing optimal healthcare to all patients and reducing readmissions. Some patients visiting the psychiatric emergency room may need to remain under observation until their symptoms have stabilized before deciding whether inpatient or outpatient treatment is appropriate. The present project piloted new methods for evaluating patients assigned to observation, to assess this intervention's effectiveness in stabilizing their behavioral and psychological states before discharge, and to identify forward looking markers to predict risk for readmission. Patients assigned to 23 hour observation in the psychiatric emergency room participated in the project. They were primarily diagnosed with substance dependence (18/22) and/or mood disorders or major depression (8/22). The main reasons for placement on observation were suicidal attempts or ideation (21/22). Thirteen of twenty-two patients were discharged to outpatient programs, 3/22 assigned to residential rehabilitation and 6/22 to inpatient treatment. Patients filled in two questionnaires on a computer, a depression scale, CES-D, an impulsivity scale, UPPS, twenty-two visual analog scales based on the Internal State Scales, and five behavioral tests: a reaction time task, a stop signal task, a test of short-term memory, a picture AX attentional task and a novel block-stacking test of risk taking. Seventeen patients were tested within 6 hours of admission and six patients more than 12 hours after admission (Age: 35.87 years, Sex: 17 M, 6 F). Overall the patients showed a more impulsive profile than undergraduate healthy volunteers (Sex: 63 M, 107 F) in the stop signal and AX tasks, but not in the block stacking test, suggesting problems inhibiting previously trained and frequently rewarded responses. Patients tested at the end of observation showed higher VAS ratings for Depression than those tested early in the observation period, and cared less about what other people were thinking about them. These results should be interpreted cautiously because of the small number of patients tested. Further differences may emerge as recruitment continues. This study shows computerized assessment using questionnaires and behavioral tests of cognition can be carried out in the psychiatry emergency room. There is no evidence to date that the cognitive performance or decision-making style of patients tested soon after admission is different from those assessed later in the period. The reasons for this may be complex, and perhaps related to who is willing to volunteer. Definitive answers would require assessing the same patients early in and at the end of the observation period. Nevertheless, the present data suggest that, while 23 hour observation offers an opportunity to manage the acute crisis, patients may leave the emergency room with underlying cognitive and decision making problems.

NR6-07
ASSOCIATION OF CEREBRAL NETWORKS IN RESTING STATE WITH SEXUAL PREFERENCE OF HOMOSEXUAL MEN: A STUDY OF REGIONAL HOMOGENEITY AND FUNCTIONAL CONNECTIVIT

Lead Author: Shaohua Hu
Co-Author(s): Xu DR, Peterson BS, Zhang MM, Cao LF, Wang QD, He XF, Hu JB , Xu XJ, Wei N, Long D, Huang ML, Zhou WH, Xu WJ, Xu Y

SUMMARY:

Recent imaging studies have shown that brain morphology and neural activity during sexual arousal differ between homosexual and heterosexual men. Whether structural and task-related functional differences also exist in the resting state is unknown. The study is to characterize the association

of homosexual preference with measures of regional homogeneity and functional connectivity in the resting state. Participants were 26 healthy homosexual men and 26 age-matched healthy heterosexual men in whom we collected echo planar magnetic resonance imaging data in the resting state. The sexual orientation was evaluated using the Kinsey Scale. We first assessed group differences in regional homogeneity and then, taking the identified differences as seed regions, we compared groups in measures of functional connectivity from those seeds. The behavioral significances of the differences in regional homogeneity and functional connectivity were assessed by examining their associations with Kinsey Scores. Homosexual participants showed significantly reduced regional homogeneity in the left inferior occipital gyrus, right middle occipital gyrus, right superior occipital gyrus, left cuneus, right precuneus, and increased regional homogeneity in the rectal gyrus, bilateral midbrain, and left temporal lobe. Regional homogeneity correlated positively with Kinsey scores in the left inferior occipital gyrus. The homosexual group also showed reduced functional connectivity in left middle temporal gyrus, left supra-marginal gyrus and right cuneus. Additionally, the connection between the left inferior occipital gyrus and right thalamus correlated positively with Kinsey scores. These differences in regional homogeneity and functional connectivity may contribute to a better understanding of the neural basis of male sexual orientation.

NR6-08
BRIEF LITERATURE REVIEW AND CASE REPORT OF NEUROPSYCHIATRIC SYMPTOMS IN NEUROMYELITIS OPTICA

Lead Author: Cheryl A. Kennedy, M.D.
Co-Author(s): Ritesh Amin, MD, Rehman Madraswala, Medical Student IV

SUMMARY:

A significant improvement in the understanding of the pathogenesis of Neuromyelitis optica (NMO) was reached when an antibody for aquaporin-4 (NMO-IgG) was discovered in 2004 in the serum of NMO patients [1]. Aquaporin-4 (AQP4) is a water-selective transporter expressed in the kidney, lung, stomach, skeletal muscle, and in astrocytes throughout the central nervous system [2]. This disease is an idiopathic inflammatory demyelinating disease of the central nervous system characterized by a predilection for the optic nerves and spinal cord but other brain lesions are known to occur. This report highlights some neuropsychiatric symptoms associated NMO.

Case Presentation: A 41-year-old male who presented to an urban university hospital with NMO and a myriad of psychiatric symptoms. Our patient has a history of and chronic numbness and tingling on the face and both upper and lower extremities along with loss of vision in both eyes. He has a positive serum marker for aquaporin 4 IgG antibody and on MRI has bilateral hyper-intensity in frontal and temporal lobes. He has developed severe depression, anxiety, insomnia, and hypomania over time of his illness. He reports consistent moderate to severe neuropathic pain and numbness in his extremities.

Discussion: Aside from depression, the literature rarely addresses other neuropsychiatric symptoms associated with NMO despite the increasing recognition that cerebral lesions exist in NMO patients. Two other case reports in the literature mention NMO patients have suffered from delusions of persecution, coprophagia, fluctuating arousal, slow performance on tests of attention with late recall being poor, obsessionality, paranoia, severe insomnia, and polydipsia [3,4]. Brain imaging of the patient confirmed hypothalamic and brainstem involvement. In one report, eye-movement disorder, bulbar dysfunction, and disordered control of respiration were caused by extensive brainstem disease [4]. Awareness and early recognition of the possible neuropsychiatric symptoms associated with NMO may lead to Psychiatric care that may be able to help mitigate the negative impact of this extraordinarily debilitating disease.

NR6-09
CAN ASSESSORS IN A TRIAL ON PSYCHOTHERAPY BE SUCCESSFULLY BLINDED?

Lead Author: Norio Watanabe, M.D., Ph.D.

SUMMARY:

Context
Blinding is a key element of treatment evaluation, and is considered more difficult to obtain in trials assessing psychosocial treatment than in those on pharmacotherapy. In most blinded psychotherapy trials, assessors are usually kept blinded to intervention group, however, the degree of success in blinding is rarely reported.
Objectives
To evaluate the concordance rate and kappa values for agreement between the right allocation and the guessed allocation by blinded assessors in a randomized controlled trial (RCT) on psychotherapy. Factors associated with concordance between actual assignments and guessed assignments are also explored.
Design, Setting and Outcomes
Data on both actual and guessed assignments by 6 blind assessors were obtained at 4- and 8-week assessments in a RCT assessing the added value of brief behavioral therapy for insomnia over treatment as usual for residual depression and refractory insomnia in 37 adults at three psychiatric outpatient departments. The Hamilton Rating Scale for Depression (HAMD) scores were assessed by blind raters. Neither the patients nor physicians of TAU were blind to allocation. However, all patients were requested not to reveal their allocated treatment to the assessors for the HAMD. After each assessment, an assessor guessed which group the patient had been assigned to, making it possible to examine if the blinding was successful. Information about the degree of confidence in and reasons for guessing such was also gathered from the assessors.
Results
The concordance rates and kappa values for agreement between the actual allocation and the allocation guessed by blind assessor at each assessment were 56.7% and 0.15 at 4 weeks and 70.2% and 0.41 at 8 weeks, respectively. This indicated that the blinding of the assessors was satisfactory.

With regard to factors associated with the right allocation, only "intuition" of the assessors was statistically significant (P=.02). Time point of an assessment, atmosphere of conversation with the patient, results of the HAMD, the degree of confidence in guessing, actual allocation, guessed allocation, or remission in depression or insomnia at the end of the study did not lead to right answer.
Conclusion
Assessors in a trial on psychotherapy can be successfully blinded, where a sufficient effort is made.
References
1. Watanabe N, Furukawa TA, Shimodera S, Morokuma I, Katsuki F, Fujita H, Sasaki M, Kawamura C, Perlis ML. Brief behavioral therapy for refractory insomnia in residual depression: an assessor-blind, randomized controlled trial. J Clin Psychiatry. 2011;72(12):1651-8.

NR6-10
COCAINE DIAGNOSTIC CHANGE IN TREATED COCAINE DEPENDENT HOMELESS PERSONS

Lead Author: Anna Lorene Davidson, B.S.
*Co-Author(s): Anna Davidson, Lauren Hayes, Jesse Milby, Joseph Schumacher, *Dennis Wallace, Stephen Mennemeyer*
*University of Alabama at Birmingham, *RTI International*

SUMMARY:
Introduction/Hypothesis: Cocaine diagnostic change at six months and twelve months following treatment were compared between treatment groups in homeless persons (n=288). Both groups (CM and CM+) received drug abstinence contingency managed housing. In addition, the enhanced treatment group (CM+) received evidence-based behavioral day treatment.
Methods: Using a design by Schumacher et al. (2003), two groups of diagnostic change outcomes were created: positive DSM-IV outcomes and negative DSM-IV outcomes. Positive outcomes included cases in which improvement had occurred (i.e. dependence to dependence full remission) and cases in which "good" diagnoses were maintained (i.e. dependence full remission to dependence full remission). Negative outcomes included cases in which worsening had occurred (i.e. dependence full remission to dependence) and cases in which "bad" diagnoses were maintained (i.e. dependence and dependence). Chi-Square analyses were used to compare treatment group (CM and CM+) with DSM-IV diagnostic change (positive and negative) at six month and twelve month follow-ups.
Results: At six months, CM had 46 of 69 (67%) positive outcomes and CM+ had 59 of 78 (75.6%) positive. At 12 months, CM had 31 of 67 (46.3%) positive and CM+ had 47 of 74 (63.5%) positive. At six months, no significant difference in diagnostic change between treatment group was found [Ch Sq= 1.445, df=1, p=0.229] but at twelve months, CM+ had a greater prevalence of positive diagnostic change than CM [Ch Sq= 4.231, df=1, p=0.040].
Conclusions/Discussion: That positive cocaine diagnosis outcomes at six months were double negative outcomes suggests treatment was effective in lessening severity of patients' primary addiction, even though type of treatment did not necessarily predict diagnostic change immediately after treatment. Type of treatment six months following the end of treatment, did seem to predict diagnostic change.

Source:
Schumacher, J., Milby, J., Wallace, D., Simpson, C., Frison, S., McNamara, C., Usdan, S.(2003). Diagnostic compared with abstinence outcomes of day treatment and contingency management among cocaine-dependent homeless persons. Experimental and Clinical Psychopharmacology: 11(2), 146-157.

NR6-11
CORTICAL ATROPHY OF GRAY MATTER AND REDUCED INTEGRITY OF WHITE MATTER PLAY A ROLE IN COGNITIVE DECLINE OF SUBCORTICAL VASCULAR DEMENTIA.

Lead Author: Myung-Jung Kim
Co-Author(s): Je Min Park M.D., Ph.D. Byung Dae Lee M.D., Ph.D. Eunsoo Moon M.D. Young In Chung M.D., Ph.D. Hee Jung Jung M.D. Ji Kyung Ha M.D. Young Min Lee M.D.

SUMMARY:
Objective: An association between white matter hyperintensities (WMH) and cognitive dysfunction has long been recognized. However, subjects with identical appearing WMH on magnetic resonance imaging (MRI) present with a wide variance in cognitive function ranging from normal cognition to dementia. The aim of this study was to compare cortical atrophy of gray matter and integrity of white matter of patients with subcortical vascular dementia (SVaD) with those of normal cognition group with WMH (ncWMH). Method: Eleven patients with SVaD and age-, gender- and education-matched 11 ncWMH underwent MRI including 3-dimensional volumetric images for cortical atrophy of gray matter (GM) and diffusion tensor imaging (DTI) for integrity of white matter (WM). Results: Compared to ncWMH, SVaD patients showed widespread cortical atrophy of GM including lingual gyrus and reduced integrity of genu and splenium of the corpus callosum (CC). Conclusions: Our finding suggests that cognitive decline from ncWMH to SVaD may be associated with cortical atrophy of GM and reduced integrity of WM.

NR6-12
CRIMINAL RECORDS AVAILABLE ONLINE: RELIABILITY, PRACTICAL APPLICATIONS, AND ETHICAL ISSUES

Lead Author: Matthew Wainwright Grover, M.D.
Co-Author(s): Merrill Rotter, MD

SUMMARY:
The advent of improved technology and communication has caused an exponential increase in the amount of publicly available information that can be utilized by forensic psychiatrists. The Department of Corrections in many states provides an

online offender database, which can be used as a resource to obtain collateral information. The development of such databases occurred as the result of victim's rights legislation, which led to the creation of VINELink (Victim Information and Notification Everyday), and funding from programs like the National Criminal History Improvement Program.

This poster will offer an overview of the available data on a state level regarding criminal histories, incarcerations, and convictions. It will explore the utility of such information, the reliability of the information presented, and the ethical issues that may arise from obtaining such information.

NR6-13
DO PERSONAL RELIGIOUS RESOURCES MITIGATE THE ASSOCIATION BETWEEN NEUROTICISM AND COURSE TRAJECTORIES OF LATE-LIFE DEPRESSION?

Lead Author: Arjan W. Braam, M.D.
Co-Author(s): Hanneke Schaap-Jonker, Bas Steunenberg, Christa Anbeek & Dorly J.H. Deeg

SUMMARY:

Aim of the present study is to investigate whether the pervasive association between course trajectories of late life depression and neuroticism are affected by personal religious resources: do religious coping and religious feelings compensate or correspond with personality?
Methods. Data are used from the nation-wide, population-based Longitudinal Aging Study Amsterdam. A sub-sample of 317 respondents (church-members, mean age 77.3 years), including all the respondents with high levels of depressive symptoms (CES-D) at any measurement cycle between 1992-2003 and a random sample of non-depressed respondents who completed a postal questionnaire in 2005. Measurements: Scales on God Image and Religious Coping (Brief RCOPE); Neuroticism: NEO-PI-R and 15-item Dutch Personality Questionnaire. Twelve-year depression course trajectories (never, past, persistent, current).
Results. No interaction were observed with positive or negative religious coping or feelings with the NEO-PI-R. Using the DPQ scale, neuroticism interacted with positive religious coping for most depression trajectories, and with feelings to be wronged by God.
Conclusion. Limited support was found for both the compensation hypothesis and the correspondence hypothesis.Some religious resources seem to maintain associations with the course of late life depression, negative coping and negative feelings in particular, irrespective of the level of neuroticism.

NR6-14
DOES PHYSICAL ACTIVITY REDUCE THE PRESENCE OF DEPRESSION AMONG THE ELDERLY LIVING IN THE COMMUNITY?

Lead Author: Adelle Moade Ribeiro Souza
Co-Author(s): Sergio Luís Blay
Sergio Baxter Andreoli
Fábio Leite Gastal

SUMMARY:

Introduction: Little is known about the physical activity effects associated with depression in community resident elderly in Brazil.
Objective: The purpose is to clarify if physical activity reduce the presence of depression among the elderly living in the community.
Method: Data came from a representative sample of 6961 residents aged 60+ in the State of Rio Grande do Sul, Brazil. The structured interview included Self-rated physical activity in the last three months (days of physical activity per week [0 /1-2 /3+) depression (Short Psychiatric Evaluation Schedule) and enquiry regarding sociodemographic characteristics, life-style and social support, health conditions. Logistic regression analysis was used to control for demographic , health and other mediating variables (health behavior, ADL).
Results: The overall prevalence of physical activity was 37.9%. Of the sample; 62.1% endorsed no physical activity, 12.6% and 25.2% carry out 1-2 or 3+ days of physical activity per week respectively. The prevalence of depression was 20.9%. Controlled analyses comparing a gradient of physical activity and depression, found that engaging physical activity for 3 + days/wk (compared to none) reduce the odds of depression by 30%.
Conclusions: Physical activity for 3+ days per week makes a unique and independent contribution to reduce depression.

NR6-15
EFFECTIVENESS OF IMMUNITY-TO-CHANGE COACHING FOR LEADERSHIP DEVELOPMENT

Lead Author: Inna Markus,

SUMMARY:

This study is the first formal, quantitative investigation of the effectiveness of Immunity-to-Change coaching for leadership development. The Immunity-to-Change coaching approach is a professional development framework that aims to increase clients' effectiveness in their professional roles by exploring the discrepancies between their current behaviors and intended goals. As in cognitive behavioral therapy, coached individuals uncover the underlying assumptions or cognitive patterns that give rise to these discrepancies, allowing clients the opportunity to envision and experiment with new, more effective behaviors. In this study, 45 Supervisors who engaged in Immunity-to-Change coaching were compared with a comparison group of 25 Supervisors from the same company to determine whether coached participants reported more progress on their personalized leadership development goals than did comparisons. The question of whether perceived likelihood of achieving one's goals increased with the coaching was also assessed. Finally, coached participants indicated their likelihood of utilizing Immunity-to-Change tools to pursue further goals and identified the coaching components they found most useful. Extensive analyses revealed that the coached group reported significantly more progress toward their leadership development goals than their comparison group counterparts. Despite having an extra month to actively work on their goals, comparison group participants were not

able to make a comparable amount of progress toward their goals as the group who completed a round of Immunity-to-Change coaching. In fact, the comparison group did not make any statistically significant progress toward their goals, despite reporting that they actively worked on those goals for an average of 37.5 hours each within the 3-month comparison period. On the other hand, the coached group, who underwent approximately 22 hours of Immunity-to-Change coaching, reported an average improvement of 69.17%, as measured by retrospective self-reported progress toward their goals. Despite making significantly more progress on their goals than the comparison group, coached group participants were no more confident in their perceived likelihood of achieving their desired goals in the future than those who did not participate in the coaching. Finally, a vast majority (93%) of coached participants indicated intent to use Immunity-to-Change coaching tools again in the future, especially the Four-Column Map.

NR6-16
FAMILY TIES AND FREQUENCY OF DRUG USE: DIFFERENCES BETWEEN AMPHETAMINE AND HEROIN USERS

Lead Author: Kuanchiao Tseng, M.D., Sc.D.

SUMMARY:

Introduction

Amphetamine and heroin are two of the illicit drugs to which many of the inmates in detoxification centers in Taiwan are addicted. The control theory holds that connections to social norms (e.g. ties to family) help prevent delinquent behaviors such as drug use. A previous empirical study found that family ties were negatively associated with the frequency of heroin use among male inmates in a detoxification center in Taiwan. Because of the properties of heroin and amphetamine are distinct, however, we are unclear whether this relationship still holds true for amphetamine users.

Method

This study aimed to examine the relationship between family ties and the frequency of amphetamine use. We adopted a parallel analysis to compare the results with a previous study on heroin users. Three domains of family ties were identified by a factor analysis: (1) ties to family of origin; (2) ties to procreation family; and (3) ties to grandparents. We examined the medical records of 180 male drug offenders admitted to the Tainan detoxification center in Taiwan between 2002 and 2003. We performed linear regression to evaluate for associations.

Results

Compared with the male heroin users admitted to the same institution during the same period, amphetamine users used the drug less frequently, tended to have stable jobs, and were more likely to use drugs for maintenance rather than euphoria seeking. We found that an increase in the number of ties to the different domains of family was associated with a lower frequency of drug use among amphetamine users (coefficient = −2.63, 95% confidence interval: −4.36 ~ −0.90). The negative association of family ties on the frequency of drug use was larger for amphetamine users than for heroin users (coefficient = −2.63 vs. −1.97), after we adjusted for other social support variables.

Discussion

Amphetamine is a stimulant, whereas heroin is a narcotic. A larger beneficial effect of family ties on amphetamine use than on heroin use might be due to the lower addiction level of amphetamine and differences in the characteristics between the amphetamine and heroin users. The current policy for offenders who use amphetamine and heroin in Taiwan depends largely on quarantine, which is used as a punishment rather than providing users with a relevant therapy. This approach fails to consider the positive influences of social networks, such as connections with family. We discuss treatment implications of family therapy on both amphetamine and heroin addictions.

NR6-17
FEASIBILITY OF CENTRAL RATINGS FOR MENTAL HEALTH SAFETY SCREENING IN A NON-PSYCHIATRIC CLINICAL TRIAL

Lead Author: Janet BW Williams, Ph.D.
Co-Author(s): Davis D, Popp D, Gross JA, Salvucci D, Detke MJ

SUMMARY:

Introduction
Clinical trials in non-CNS indications frequently include assessments of psychopathology and safety signals. Non-mental health sites may not be equipped to diagnose exclusionary mental disorders or follow-up on suicidality. Central ratings by videoconferencing or telephone by mental health experts enables immediate clinical follow-up and actionable diagnostic support for investigators. This study examines the feasibility of using centralized ratings in a Phase III dermatology clinical trial to evaluate treatment effects and establish safety indicators.
Methods
7988 assessments were performed via telephone on 1127 subjects who were patients at dermatology offices and enrolled in this clinical trial of a medication for their dermatologic condition. These assessments were done initially to assess study eligibility, within study to determine treatment effects, and post-study to assess treatment sequelae. Subjects were adults (n=630) and adolescents (n=497). At screening, central raters administered the SCID-CT, C-SSRS Lifetime and Last Year to assess suicidality, and PHQ-8 for depressive symptom severity. At monthly visits, central raters performed the C-SSRS Emergent, PHQ-8, GAD-7 and items designed to detect emergent psychotic symptoms.
Results
Screening: 34 subjects (3%) were excluded on the basis of SCID-CT diagnosis. Of these, 27 (2.4%) were excluded for a

major depressive episode and one for hypomania in the past year, one for a lifetime major depressive episode, and five for a lifetime psychotic episode. Based on diagnosis or severity, subjects could be classified as being in no need of mental health services, or having mild psychiatric symptoms (referred to local mental health service provider; n=33), moderate (immediate referral for psychiatric evaluation; n=17), or severe (immediate escort to emergency room; n=0).
At screening one subject reported suicidal ideation on the C-SSRS, 1% reported self-injurious behavior (n=10), and 0.5% reported suicidal behavior in the last year (n=5).
Scores on the PHQ-8 at screening ranged from 0–21 (M=1.02; SD=1.89). 54% of subjects scored a 0 on the PHQ-8 (n=612) and eight subjects had scores greater than 10.
Follow-Up: No subjects reported suicidal ideation or behavior at any of the 6861 follow-up assessments. One subject reported self-injurious behavior and two reported emergent psychotic symptoms. PHQ-8 and GAD-7 scores were stable within each subject over the course of the study.
Conclusions
This study established the feasibility of routine screening and monitoring of psychopathology and suicidality by central raters in a non-psychiatric population. Central raters identified subjects who did not qualify for entry at the beginning of the study because they had active suicidal ideation and significant active or recent mood disorder in the last year, or a lifetime incidence of psychosis. Throughout the study, central raters identified cases of emergent psychosis and mood symptoms.

NR6-18
HOW DO U.S. CLINICAL RESEARCH SITES COMPARE WITH THE REST OF WORLD IN INTERVIEW AND RATINGS QUALITY?

Lead Author: David G. Daniel, M.D.
Co-Author(s): Alan Kott, MD
Bracket Global, LLC

SUMMARY:

INTRODUCTION: As drug-placebo differences have diminished over time clinical trials sites in the United States has come under increasing scrutiny (1,2). We compare the quality of interview and ratings procedures delivered by North American (NA) vs. rest of world (ROW) sites using pooled results of surveillance measures from ten international schizophrenia clinical trials.
METHOD: A proprietary video/audio recording system was utilized to record PANSS rating procedures for review by calibrated external reviewers. Instruments used to assess ratings and interview quality included the Research Interview Assessment Scale (RISA) and the Rater Quality Questionnaire (RQQ).
The RISA is a four domain, 16 item scale with higher scores reflecting better quality (3). The RQQ is a 2 item global measure addressing: 1) the quality of patient and/or informant interview data; and 2) proper application of the rules and anchor points of the rating scale or structured interview. Each RQQ domain is evaluated on a Likert-like scale ranging from one to three with lower scores representing higher quality (4) .
RESULTS: Mean total RISA scores NA (27.9 +/- 3.00) were modestly lower than ROW (28.3 +/- 2.54) ($t(1899)=2.94$, $n=1901$, $p<0.01$). However, NA raters scored lower (indicating higher quality) than ROW on the RQQ global interview quality axis (1.27 +/- 0.49 vs. 1.34 +/-0.50 $t(1614)=2.54$, ($n=1616$), $p<0.05$. There were no significant differences between NA and ROW scores on the RQQ ratings quality axis. (1.27 +/- 0.47 vs. 1.30 +/-0.49 $t(1614)=1.26$, ($n=1616$) p=NS.
CONCLUSION: North American clinical trialists scored as well or better than their ROW counterparts on the RQQ, which evaluates the quality of ratings information collected by interview and adherence to rating scale rules. On the RISA, which evaluates a broad range of interview behaviors, NA raters scored modestly worse than their ROW counterparts. This report is preliminary as data continues to be collected in ongoing clinical trials.

REFERENCES

1)Kemp AS, Schooler NR, Kalali AH et al: What is Causing the Reduced Drug-Placebo Difference in Recent Schizophrenia Clinical Trials and What Can be Done About It? Schizophrenia Bulletin (2010) 36 (3): 504-509.
2) Kobak KA: Inaccuracy in Clinical Trials: effects and methods to control inadequacy. Curr Alz Res 2010 Nov; 7 (7) :637-641
3)Spear C, McNamara C, Miller D et al: A New Scale for Evaluating Interviewing Competency. Proceedings of the New Clinical Drug Evaluation Unit Annual Meeting, Boca Raton, Florida, June 14, 2006.
4) Daniel DG and Kott A: Initial Findings of the The Rater Quality Questionnaire (RQQ): A New Tool for Evaluating Quality of Ratings in Global Clinical Trials. Poster presented at the 25th ECNP Congress, October 13-17, 2012, Vienna, Austria.

NR6-19
A MINDFULNESS-BASED RESILIENCE INTERVENTION FOR TRANSPLANT PATIENTS AND CAREGIVERS

Lead Author: Cynthia M. Stonnington, M.D.
Co-Author(s): Betty Darby, Ph.D., Andrea Cuc, L.C.S.W., Pamela Mulligan, R.N., Patricia Pathuis, L.C.S.W., Amit Sood, M.D., Larry Bergstrom, M.D., Julia Files, M.D., Anita Mayer, M.D., Kari Martin, M.D., Teri Pipe, Ph.D., Mary Davis, Ph.D., Alex Zautra, Ph.D., David Mulligan, M.D.

SUMMARY:

Resilience is the ability to recover quickly from adversity, sustain positive engagement in the midst of hardship or stress, to learn and grow from the experience. Evidence supports the notion that resilience can be taught. Solid organ and stem cell transplant patients and their caregivers report a substantial level of distress. Stress-related symptoms negatively affect compliance, quality of life, and overall may lead to worse outcomes. A sizable proportion of patients do not follow through with community referrals for stress management or counseling. Even if they are not experiencing psycho-

pathology, resilience training could help patients to manage stress and improve outcomes. We therefore piloted a 6-week mindfulness based resilience intervention for our solid organ and bone marrow transplant patients and caregivers at Mayo Clinic. The 1st session was designed to expand focus of awareness on compassion, gratitude, celebration, reflection, meaning and purpose. The 2nd through 6th sessions were focused on mindfulness training, including body awareness, breath awareness, awareness of thoughts, awareness of emotion, and compassion. Gentle yoga and mindful movement were also incorporated. In addition, participants completed journals that reinforced an expanded awareness and focus on present moment experiences. Twenty patients and caregivers participated. Although most did not report significant anxiety or depression prior to the program, all patients and caregivers reported increased well-being as a result of the program. All participants reported ongoing mindfulness practice between sessions and afterwards, and the majority used the journals. Most reported improved ability to manage stress, greater tolerance of negative emotions, thoughts, and physical sensations, and more positive emotions as a result of going through the training. Most had never been exposed to these concepts previously and found it beneficial in approaching their daily life. Ongoing follow-up will determine whether medical outcomes are also improved as a result of this training program. We expect resilience based mindfulness training to be incorporated into our standard care for transplant patients.

NR6-20
KAVA CASE SERIES: SERIOUS SIDE EFFECTS WITH PSYCHOTROPICS RELATED TO POSSIBLE INHIBITION OF CYTOCHROME P450 ENZYMES DUE TO CONCURRENT KAVA USE

Lead Author: Tara Pundiak Toohey, M.D.
Co-Author(s): Brett Y. Lu, M.D., Ph.D.
Cherisse Wada

SUMMARY:

Introduction: Kava is a herbal remedy with sedative effects popular amongst Native Pacific Islanders for centuries who use it for its sedative effects and in religious ceremonies. Kava has also gained popularity in Western countries due to its anxiolytic properties. Very little is known about potential adverse reactions to Kava other than a few reports of hepatotoxicity. However, there is growing evidence that Kava can strongly inhibit cytochrome P450 (CYP) enzymes and thus poses a potential pharmacokinetic interaction with various medications, including psychotropics. Whether such potential interaction between kava and standard medications leads to dangerous clinical outcome has not been well-studied.

Case description: We present two cases of patients seen on the psychiatric emergency and consult service who developed severe side effects from psychotropic medications in the context of kava use. The first case involves an agitated patient with bipolar disorder who developed respiratory depression and metabolic encephalopathy after standard doses of haloperidol and lorazepam. The second case is of a patient with restless leg syndrome that progressed to a dopamine dysregulation-like syndrome after given low dose of dopaminergic medication. In both cases kava use may have affected the metabolism of the psychotropic medications, leading to serious side effects .

Discussion: Growing research indicates that kava likely alters concentrations of co-administered psychotropics in general. There remains no formal recommendations for safe use of psychotropics with kava, as there are no known systematic studies that investigate the pharmacokinetic interactions between kava and specific psychotropics. There needs to be greater awareness of safety issues among recreational and religious kava users who use prescription medications with dose-related serious side effects. Individuals with low intrinsic CYP enzyme activities may be at high risk for dangerous drug-drug interactions when using kava. Thus kava-users could benefit from pharmacogenomic testing to determine baseline ability to metabolize medications and their susceptibility to any potential kava inhibition of CYP. This information along with further research about kava and its metabolites could help determine a pharmacologic solution for patients who require psychotropic medications but would like to preserve cultural traditions and religious practices.

NR6-21
LOW DOSE NALTREXONE-BUPRENORPHINE COMBINATIONS IN THE OUTPATIENT TREATMENT OF OPIOID ADDICTION: FEASIBILITY, SAFETY, AND PRELIMINARY RESULTS

Lead Author: Paolo Mannelli, M.D.
Co-Author(s): Kathleen Peindl, PhD
Li-Tzy Wu, ScD

SUMMARY:

Objective: The administration of naltrexone in combination with buprenorphine may help expedite opioid detoxification and further induction to naltrexone treatment among individuals with opioid addiction (OA). Other clinical applications may stem from the predicted ability of naltrexone-buprenorphine combinations to reduce opioid dependence and cocaine use, and improve analgesia. Unfortunately the risk of significant enhancement of opioid withdrawal discomfort when the two medications are given together raises concerns and suggests the identification of safe methods of clinical use.
Methods: We examined treatment safety and tolerability, daily drug use, and opioid withdrawal intensity among 10 consecutive OA patients, in the initial 3 days of an open-label transition from opioid use to extended-release naltrexone injection (XR-NTX, Vivitrol). Individuals were administered buprenorphine/naloxone daily (4mg, 2mg, and 2mg respectively), and were equally divided into 2 groups receiving naltrexone 0.25/0.5mg (Day 1), 0.25/0.5mg (Day 2), and 0.5/1mg (Day 3).
Results: No drop-outs and adverse or serious adverse events were recorded. Opioid withdrawal intensity and craving scores were 50% to 80% lower than baseline following the first day of treatment, and were 70% lower than pre-treatment scores by Day 3. 77% of urine samples were negative for opioid substances following 3 days of treatment. Among OA patients who used cocaine in the week before treatment

(n=5), negative urine tests results for cocaine were 86%, while negative opioid tests results amounted to 73%. There were no differences in treatment response associated with severity of opioid dependence, type or quantity opioid used, time elapsed between last opioid and induction to treatment, use of ancillary medications, or different naltrexone schedules. Conclusions: The administration of naltrexone-buprenorphine combinations as described was safely performed in this group of patients, and was associated with reduced withdrawal intensity and reduced opioid and cocaine use. Further investigation in larger samples is needed to confirm the feasibility of this method and evaluate its place in the transfer of OA patients from opioid use to XR-NTX treatment.

NR6-22
MILNACIPRAN AND NEUROCOGNITION, PAIN AND FATIGUE IN FIBROMYALGIA: A 13-WEEK RANDOMIZED, PLACEBO CONTROLLED CROSS-OVER TRIAL

Lead Author: Jeong Lan Kim, M.D., Ph.D.
Co-Author(s): Jeong Lan Kim1,2, Chi-Un Pae1,3, Seaheon Jang1,4, Pallavi Yerramstty1, Robert Millet 1,5, Richard Keefe1, Ashwin A Patkar, MD1
1Duke University Medical Center, Durham, NC, 2Chungnam University, Korea, 3Catholic University, Korea, 4Bongseng Memorial Hospital, Korea, 5Carolina Behavioral Care, Durham, NC

SUMMARY:
Objectives: Fibromyalgia characterizes widespread pain and fatigue, and patients reports that they have trouble remembering things, process information less efficiently. This study was designed to investigate whether milnacipran is safe and effective in improving cognitive function in fibromyalgia.
Methods: This was a single-site, block randomized (1:1 ratio) double-blind, placebo-controlled prospective cross-over study. Patients were randomized to receiving milnacipran-washout-placebo or placebo- washout-milnacipran for 6 weeks, followed by a one week washout and then cross over to the other arm for another 6 weeks. The overall trial lasted 13 weeks. Assessments was performed at each visit. Neurocognition was measured by Brief Assessment of Cognition (BAC) and MATRICS. Pain was assessed by Visual Analogue Scale (VAS) for pain. Overall fibromyalgia symptoms was measured by the Fibromyalgia Impact Questionnaire (FIQ) and tender point examination. Depression was assessed by scores on the Beck Depression Inventory(BDI). Fatigue was assessed by the Fatigue Severity Scale (FSS). Functional outcome was evaluated by the Health Assessment Questionnaire (HAQ). The CGI-S and CGI-S and the PCGIC was used to measure global impression of severity and improvement.
Results: 17 subjects completed phase1 and 14 subjects completed phase 2. The mean age was 48.9.±9.8. years, women were 87.1%. The change of Verbal Memory and Composite T score of BAC and the change of Attention-Vigilance Domain T score was significant improved, but there no difference between group. The changes of Clinical Global Impression-Severity (CGI-S) was not significant, but the changes of Clinical Impression-Improvement(CGI-I) was shown worsening in placebo group at week 1(p=0.034), week 2(p=0.026), week 4(p=0.024), and week 6(p=0.60) compared to baseline. The change of Fibromyalgia Impact Questionnaire (FIQ) scores was not significant. The score of Patients Clinical Global Impression of Change (PCGIC) was significant decreased at week 1 (p=0.34) in milnacipran group. The score of Beck Depression Inventory (BDI) was significant decreased at week 1 (23.1 ± 13.5vs 26.5 ±14.8, p=0.007 in milnacipran group. Among 3 subscales of HAQ, the score of disability index was improved at week 1 (p=0.012) and week 2 (p=0.041) in milnacipran group.
Conclusions: the present study indicates the potential benefit and tolerability of milnacipran in treatment of fibromyalgia patients. Milnacipran may have a potential role in improvement pain, disability, and mood. It needs researches on the effect of milnacipran on cognition in fibromyalgia.

NR6-23
MOOD DISORDERS IN OPIOID ABUSERS UNDER CRIMINAL JUSTICE SUPERVISION

Lead Author: William Lawson, M.D., Ph.D.
Co-Author(s): Alese Wooditch, MA George Mason University);
Amy Murphy, MPP (George Mason University);
Faye Taxman, PhD (George Mason University)
Suneeta Kumari, MPH, MD (Howard University);
Tanya Alim MD (Howard University)
Frederick L. Altice, M.D., M.A(Yale University)

SUMMARY:
Introduction: Individuals with mood disorders are common in correctional settings. Depression and bipolar disorder have been associated with high rates of recidivism . Moreover, these conditions are often comorbid with substance abuse, and increase the likelihood of high-risk sexual and drug use behavior, which may lead to infection with HIV . We examined the prevalence of mood disorders as part of the National Institute on Drug Abuse's (NIDA) Seek, Test, Treat, and Retain initiative to test the effectiveness of Buprenorphine treatment among HIV-positive, opioid-dependent individuals who are under pretrial or probation supervision in Washington, DC.
Method: At the screening interview, participants completed the Patient Health Questionnaire-9 (PHQ-9) (a widely used screening instrument for depression), the Addition Severity Index, Lite version (ASI-lite) (used to assess family history of alcohol, drug, and psychiatric problems), and the Mood Disorder Questionnaire (MDQ) (used to screen for bipolar disorder).
Results: All volunteers were opioid-dependent African Americans (N=135), with a mean age of 50. More than 90% of the sample screened positive for at least mild depression, and 23% showed a positive screen on the MDQ. Both moderately/severely depressed individuals and those who screened positive for bipolar disorder had significantly more legal issues, as shown by composite scores on the ASI (t=-2.02, p?.05; t=-2.36, p<.05), psychiatric (t=-5.37; p=.000; t=-3.19, p<.01), and medical status (t=3.78, p<.05; t=-2.76, p<.01) areas. In addition, 46% of the sample indicated that they had

been previously diagnosed with bipolar disorder.

Discussion: These findings are consistent with others of the substance abusing correctional population in showing high rates of mood disorder. The results are striking, however, in the high rates of bipolar disorder. The MDQ is notorious for false positives , and a confirmatory assessment must be done. The rate of individuals indicating that they had ever been diagnosed with bipolar disorder is even higher than the rate with an MDQ+ score, which stands in stark contrast with the under recognition of mood disorders often seen in African Americans.

NR6-24
PATHOLOGICAL GAMBLING IN PEOPLE WITH SCHIZOPHRENIA AND CANNABIS DEPENDENCE

Lead Author: David Gorelick, M.D., Ph.D.

EDUCATIONAL OBJECTIVE:

At the conclusion of the session, the participant should be able to: 1) Identify diagnostic criteria for problem and pathological gambling;2) Be familiar with screening instruments for problem gambling behavior;3) Recognize signs and symptoms of problem gambling in people with schizophrenia

SUMMARY:

Background: Community- and clinic-based surveys show a prevalence of pathological gambling among people with schizophrenia or drug abuse higher than that in the general community, but there is little information about people with both disorders.
Method: Four diagnostic groups were recruited from the community: schizophrenia only (SZ, n=24), cannabis dependence only (CD, n=23), schizophrenia + cannabis dependence (SC, n=18), and healthy controls (HC, n=24). All subjects received the Structured Clinical Interview for DSM-IV, South Oaks Gambling Screen-Revised (SOGS-R), and the NORC DSM-IV Screen for Gambling Problems (NODS). Group comparisons used the ?2 test and ANOVA. Results: The 4 groups differed significantly in mean [SD] age (SZ=40.8 [12.5], CD= 27.1 [8.1], SC=30.7 [7.9], HC=29.2 [11.9]; F=8.08, p<0.0001), gender (SZ=17% female, CD=33%, SC=5%, HC=50%; ?2=12.6, p = 0.006), and years of education (SZ=12.3 [2.3], CD=12.1 [1.5], SC=11.2 [1.9], HC=13.5 [1.6]; F=5.33, p=0.002), but not in race, marital status, or 1st degree relatives with gambling problems (SZ=25.0%, CD=13.0%, SC=22.2%, HC=12.5%; ?2=1.82, p=0.18). The commonest gambling behaviors were playing the lottery (60.7% of subjects), playing cards (55.1%), and casinos (39.3%). The SC group (16.7%) was less likely than the others (43.5-45.8%) to gamble in casinos (?2=4.86, p=0.03). Rates of lifetime and past year possible or probable pathological gambling were similar across all groups, ranging from 0-4.2% (NODS past year probable) to 8.3-16.7% (NODS lifetime possible), depending on the diagnosis and instrument. Prevalence of any lifetime problem gambling behaviors (SOGS-R) was substantially higher than the other measures (SZ=50%, CD=46%, SC=58%, HC=29%), but also did not differ significantly among groups (?2=3.96, p=0.27). Conclusions: This convenience sample had prevalence rates for possible or probable pathological gambling within the range of those reported in surveys of patients with schizophrenia, with no evidence for increased prevalence among those with co-morbid cannabis dependence. The prevalence of lifetime gambling behaviors suggests that these groups warrant clinical vigilance to prevent development of pathological gambling. Limitations of this study include small sample size and single site. Acknowledgement: Supported by the Intramural Research Program, NIH, National Institute on Drug Abuse and NIDA Residential Research Support Services Contract HHSN271200599091CADB.

NR6-25
POSITIVE ASSOCIATION BETWEEN TYPE D PERSONALITY AND THE SOMATIC SYMPTOM COMPLAINTS IN PATIENTS WITH DEPRESSION

Lead Author: Seong-Hoon Jeong, M.D., Ph.D.
Co-Author(s): Wu-Ri Park, Eulji University Hospital, Dept. of Psychiatry

SUMMARY:

Type D personality was originally introduced to study the role of personality in predicting outcomes of heart disease. However, researches showed that other medical conditions are also affected by this personality. The proposed mechanisms included unhealthy lifestyle, reluctance to get medical help and hypochondriacal worries. The defining features of Type D personality, that is, tendencies to experience negative emotions and inability to express emotions, are the known risk factors of somatization tendencies. Many depressive patients express their mental distress through somatic symptoms. Therefore, it may be worthwhile to investigate the relationship between Type D personality and complaints of somatic symptoms in depressive patients.
Eighty-two individuals diagnosed with depressive disorder were included. MINI interview was used to verify the diagnosis. Type D personality was measured with 14-item Type D personality Scale (DS14). Patient Health Questionnaire 9 and 15 (PHQ-9 & PHQ-15) were used to measure depression severity and somatization tendencies. For alexithymia, 20-item Toronto Alexithymia Scale (TAS-20) was used. Student T-test and linear regression analysis were performed. The best regression model was determined by stepwise variable selection.
More than half of the subjects (56%) complained at least medium degree somatic symptoms according to PHQ-15 criteria. The mean values of NA(negative affectivity) and SI(social inhibition) subscores of DS14 were 13.28 and 12.51. Two-thirds of the subjects were classified as Type D personality (63.4%). The mean PHQ-15 score of the Type D individuals was significantly higher than the remaining subjects (12.7 vs. 7.2, p=8.2E-6). The best regression model included age, PHQ-9 score and NA subscale score as predictor variables. Among these, only the coefficients of age (p=0.0015)and NA score (p=1.5E-7) was found to be statistically significant. The result showed that Type D personality was one of the strong predictors of somatic complaints among depres-

sive individuals. This result was still valid after the severity of depression (PHQ-9) had been adjusted. The finding that negative affectivity rather than social inhibition was more closely associated with somatization tendencies does not fully agree with the traditional explanation that inability to express negative emotion predispose the individuals to somatic symptoms. The finding that alexithymia (TAS-20) was not shown to be a significant predictors also substantiated this discrepancy. However, it might be possible that the high correlation between NA and SI subscore (r=0.65) and between NA and TAS-20 score(r=0.44) hid the additional effects of social inhibition and alexithymia. Further research with a larger sample would be needed to investigate the effects of the latter two components over and above the effect of negative affectivity on the somatic complaints in depressive patients.

NR6-26
REVEALING THE HIERARCHICAL STRUCTURE OF TOPIC SPACE FROM MEDICAL DOCUMENTS WITH GRAPH CLUSTERING ALGORITHM USING RELATED CITATIONS FEATURE OF PUBMED

Lead Author: Seong-Hoon Jeong, M.D., Ph.D.

SUMMARY:

Each year vast amount of textual knowledge is being accumulated in the biomedical literature. Efficient searching and knowledge discovery became ever more important in this knowledge-exploding age. The traditional keyword-based querying only provides the small subset of relevant documents. In contrast, cluster-based retrieval exposes the inherent structure of the much larger topic space and provides the user with a bird's-eye view of the entire landscape of the related fields. The NCBI PUBMED service publishes each document's "Related Articles' and their pre-calculated similarity scores. It makes it relatively easy to cluster a large dataset into smaller subgroups based on documents' mutual similarity without complicated use of Natural Language Processing algorithm. Furthermore, this clustering process can be applied iteratively, and can produce finer and more homogenous subgroups with each iteration. This would help the user to understand the hierarchical relationship among the diverse subtopics composing the entire topic space.

To exemplify this concept, the broader topic space "schizophrenia genetics" was decomposed into multiple levels of more detailed subtopics. A sample dataset was retrieved from PUBMED with the keyword "Schizophrenia & Genetics". Related articles and the associated weights were gathered using ENTREZ programming utilities. A weighted undirected graph representing the mutual similarities among retrieved documents was constructed. Louvain algorithm for community detection was used to partition the documents into subgroups. Subgroups with sufficient number of documents were further partitioned using the same algorithm, thereby producing tree-like branching structure. The topics representing each subgroup were determined by the most frequent words according to Tf-Idf criteria.

Considerable number of subgroups contained only a single document with only very weak similarity to other documents. However, medium sized subgroups also emerged each representing quite specific topics. Though larger size subgroups represented topics very non-specific and heterogeneous, breaking into smaller subgroups helped to decipher the inherent structure of the topic space.

Using only freely accessible data from PUBMED service, a meaningful tree-like structure of topic space could be revealed without any complicated process of Natural Language Processing. This process can be applied to arbitrary size document collection and a simple R script can be used for automating the whole procedure. This robustness and simplicity is advantageous for real-world application. It would help the psychiatrists to find informative topics and ideas during their literature reviewing process.

NR6-27
PREVALENCE OF PREVIOUS SUICIDE ATTEMPTS AMONG PATIENTS ADMITTED IN A TRANSGENDER SPECIALIZED OUTPATIENT UNIT IN SÃO PAULO - BRAZIL

Lead Author: Eduardo de Castro Humes, M.D.
Co-Author(s): Desirèe Monteiro Cordeiro, PsyD, MSc. Institute of Psychiatry, Faculdade de Medicina, Universidade de Sao Paulo.
Alexandre Saadeh, MD, PhD.. Institute of Psychiatry, Faculdade de Medicina, Universidade de Sao Paulo. Professor at the Pontiff Universidade Católica of Sao Paulo.

SUMMARY:

Gender Identity Disorder (GID) occurs when a patient presents the desire to belong to a different gender to the biologically determined. The prevalence of GID varies from 1:2,900 up to 1:100,000 male to female (MTF) and 1:30,400 to 1:400,000 for female to male patients (FTM). These patients often present depressive episodes and difficulty on dealing with their sexuality, and report having low family support, putting them at risk for suicide. Suicide and suicide attempts are a major public health concern and there is little literature on the subject of suicide attempts among transgender patients. In a review we found limited data published regarding the subject, including studies where self-report of GID was used as the diagnostic. Our goal was to access the prevalence of previous suicide attempts (PSA) at admission among patients seeking treatment at a specialized service for transgender patients between 2000 and 2010, according to patient's charts. We reviewed 88 charts of consecutive patients admitted to the Institute of Psychiatry at the Clinics Hospital, a University Hospital linked to the University of Sao Paulo, who were diagnosed as transgender patients according to ICD-10 diagnostic criteria.

We found 71 MTF patients (80.68%) and 17 FTM patients (19.32%), a rate similar to the literature. Among these patients, 10 (10.38%) presented one suicide attempt and 4 (4.54%) presented 2 episodes. Only one FTM patient reported PSA at the age of 17. Ten (55.56%) PSA occurred when patients where 10 to 19 years of old, the remaining were equally divided between the ages of 20 to 29 and 30 to 39. Only 5 of the 18 PSA (27.78%) occurred when patients were

under hormonal treatment. A similar occurrence (22.78%) was found when we analyzed whether patients cross-dressed at the time of the PSA. The present study presents new data on a population often overlooked and stigmatized even among mental health professionals.

NR6-28
PSYCHIATRIC RESIDENT PERCEPTIONS OF FORENSIC PSYCHIATRY FELLOWSHIP

Lead Author: Diana Kurlyandchik, M.D.
Co-Author(s): Chinmoy Gulrajani, MD

SUMMARY:

Today there are an alarming number of mentally ill patients engaged with the criminal justice system. Further, the legal aspects of medicine have become exceedingly important in contemporary medical practice. To address legal issues in Psychiatry, The American Academy of Psychiatry and the Law was formed in 1960. The American Board of Forensic Psychiatry was established in 1976, and formal examinations by the American Board of Psychiatry and Neurology began as recently as 1994. It was only in 1997, that the Accreditation Council for Graduate Medical Education (ACGME) began certifying training programs in forensic psychiatry. Training in Forensic Psychiatry is unique because trainees must learn to transition from the role of healer to objective evaluator on behalf of third parties, a task that differs from principles of general medical care and treatment. Currently, there are about 43 ACGME Accredited Forensic Psychiatry Fellowship programs, offering approximately 75 fellowship spots. Among the Accredited Psychiatry Fellowships, Forensic Psychiatry constitutes the smallest number of programs in the USA. Many general psychiatry residency programs offer electives in Forensic Psychiatry, but despite this, the level of awareness amongst trainees is variable due to several factors which may include a perceived level competitiveness and of sophistication of legal expertise, a difficult patient population, concerns for personal safety and a lack of continuity in patient care. In this poster, we explore awareness of Forensic Psychiatry curriculum and attitudes towards sub-specialty training in Forensic Psychiatry amongst New York City General Psychiatry Residency Trainees. We investigate their reactions and their main concerns about pursuing training in this sub-specialty with an aim to inform future policy decisions in the formulation of forensic psychiatry education. Assessing the level of enthusiasm amongst residents towards training in Forensic Psychiatry will allow modification of existing curricula aimed at the concerns of trainees, and encourage future expansion of the field.

NR6-29
PSYCHIATRY RESIDENT TRAINING IN SCREENING, BRIEF INTERVENTION, AND REFERRAL TO TREATMENT (SBIRT) FOR ALCOHOL AND SUBSTANCE USE DISORDERS

Lead Author: Asim Shah, M.D.
Co-Author(s): Christopher D. Martin, MD; James H. Bray, PhD; Alicia Kowalchuk, DO; Vicki Waters, MS, PA-C; Larry Laufman, EdD; Elizabeth Hodges Shilling, PhD; Ygnacio Lopez III, MS, MS

SUMMARY:

Background. Screening, brief intervention, and referral to treatment (SBIRT) is an evidence-based approach to initiate addressing alcohol and substance use disorders with patients. There are growing efforts to incorporate SBIRT into postgraduate medical education. With SAMHSA grant support, SBIRT training has been incorporated into the psychiatry residency curriculum at Baylor College of Medicine since 2010.

Methods. First-year psychiatry residents receive four hours of SBIRT training that includes didactic presentations, video demonstrations, and interactive practice based on the Transtheoretical Model of Change and Motivational Interviewing; Residents were taught to apply SBIRT skills in multiple clinical venues and provided information about referral procedures. Faculty and resident "champions" receive a more in-depth three-day SBIRT training emphasizing Motivational Interviewing and addiction medicine. Residents and champions complete a baseline survey at the end of training and a similar follow-up survey one month after training. The surveys ask participants to rate items related to the quality and usefulness of the training on a Likert scale from 1 (most "positive" response) to 5 (most "negative" response). Additional automated monthly Web-based surveys are completed to capture self-reported numbers of patients provided any level of SBIRT services over the previous 30 days.

Results. Two Department of Psychiatry faculty and 34 residents have received SBIRT training. Eighty percent of participants have completed baseline and follow-up surveys. At baseline, residents were Satisfied to Very Satisfied (M = 1.69, SD = 0.838) with the training and indicated training enhanced their skills (M = 1.48, SD = 0.893). Ratings remained stable on the follow-up survey one month later (M = 1.68, SD = 0.945; M = 1.58, SD = .089) except for a statistically significant decrease in ratings for "usefulness of information," with M=1.36 (SD=0.700) at baseline to M=1.62 (SD=0.752) at follow-up (p=0.011). Despite the decrease, trainees remained Satisfied to Very Satisfied. At follow-up, 32 participants (84.2%) reported applying what they had learned in clinical practice. Over the past 21 months, residents and champions have reported using some level of SBIRT with 51.9% of their patients.

NR6-30
RELATIONSHIP BETWEEN SOCIAL SKILLS, SELF-ESTEEM AND BODY IMAGE IN MEXICAN COLLEGE STUDENTS

Lead Author: María Beatriz Quintanilla-Madero, M.D.
Co-Author(s): Carmen Julia Gaona Tapia; Gustavo Daniel Zenizo Muro

SUMMARY:

INTRODUCTION
Body image along with self-esteem are important in Postmod-

ern society to achieve an adequate development of social skills and social relationships. Body image may also play a considerable role in order to obtain high self-esteem and to aquire and mantain social position. Socials skills are a form of emotional expression and may have a very important influence in personality. An asertive individual has the required skills that allow him to be spontaneous, self-confident and expressive in his relationships.

OBJECTIVE
To determine the relationship between self-esteem, body image and social skills in healthy Mexican university students.

METHOD
997 college students from different careers of a private university in Mexico City, 487women (48.85%), 510 men (51.15%), with a mean age of 20 years, completed the Rosenberg self-esteem scale; the Body Shape Questionnaire; and the Multidimensional Scale for Social Expression-M: EMES-M.

RESULTS

Significant differences were found in BSQ between men and women. There was a positive correlation between EMES-M and Rosenberg scale ($p < 0.0001$), and negative correlation between EMES-M and BSQ scale ($p < 0.0001$).

DISCUSSION AND CONCLUSIONS. We found that asertiveness, as a social skill was determined by self-esteem, and was influenced by profesional profile (in this case the different carrer), and as the academic level. Important differences were found between men and women on body image. Results may indicate that there is a need to develop new strategies in order to help young people to have better social skills and not rely only upon body image as it ocurrs in postmodern environment.

NR6-31
RESTRAINT-FREE PRACTICES AT NEWLY ESTABLISHED FEMALE ADOLESCENT PSYCHIATRIC RESIDENTIAL TREATMENT FACILITIES (PRTFS) IN CONNECTICUT

Lead Author: Marianne Wudarsky, M.D., Ph.D.
Co-Author(s): Rausch, F.; Arias, J.; Febles, F.; Liburdi, R.; Santos, N.; Sarofin, M.; Gregory, G; Anderson, D.; Azeem, MW.

SUMMARY:

Background: In Connecticut, a new initiative for "filling-in" a level of care for female adolescents started with the establishment of the Psychiatric Residential Treatment Facilities (PRTFs)at the Albert J. Solnit Children's Center. These two units are providing step-downs from locked, tertiary care hospital settings to unlocked environments of care with the goal of total independence from physical restraints as acceptable interventions to reach safety and stability when physical aggression and self-injurious behaviors occur. The core philosophy and accompanying strategy of the PRTFs is the prevention of the antecedents of crisis through individually formulated action plans created with the full input of the adolescents along with their treatment team. These plans are implemented on the clinical and milieu levels of care to create a trauma-informed approach complemented by practice of the ARC (Attachment, Regulation and Competency) model.
Objectives: To determine the effectiveness of the goal to eliminate restraints among female youths in PRTFs, (the first level of care away from tertiary hospital constraints) and to examine the characteristics of the adolescents coming into the PRTFs.
Methods: A retrospective review was conducted with data collected over thirteen months from 9/2011 to 10/2012 from Admission and Discharge records and categorized according to relevant characteristics.
Results: Over 13 months, 9 incidents of Seclusion and Restraint occurred, over the time 40 adolescents were admitted and 25 discharged. There were 2 seclusions and 7 physical restraints. The average of seclusions per month was 0.18 and average of physical restraint was 0.63 per month. (In this new program, policy prohibits mechanical restraint and intramuscular injection.) Average age of admission to the PRTFs was 15 years. 50% (20) of those admitted were from Psychiatric In-Patient Units at the Solnit Children's Center, a State facility treating the most complex and chronically ill youths, many of whom required Physical Restraint and/or Seclusion. 42% (17) were referred from private hospitals. One adolescent was admitted from a Residential Treatment Facility, another from a Detention Center and one from home. 32% (13) were involved with juvenile probation. Of the 25 discharged, 28% (7) returned home, 16% (4) went to a group home setting, 8% (2) to a Residential level of care, 4% (1) to foster care and 4% (1) to a specialized hospital unit. 24% (6) were rehospitalized, most to Units at the hospital on the Solnit campus. The most frequent primary diagnoses at discharge were PTSD (12) or 30%; Major Depressive Disorder (8) or 20% and Mood Disorder Not Otherwise Specified (7) or 17%.
Conclusions: 1. Seclusion and Physical Restraint are infrequent occurrences at the PRTFs, the next to highest level of tertiary hospital care; 2. Non-Physical Restraint Reliance (NPRR) is a stimulus for more therapeutic responses prior to crisis situations.

NR6-32
PRENATAL PSYCHOSOCIAL STRESSORS ASSOCIATED WITH REPEAT WHEEZE IN THE FIRST YEAR OF LIFE

Lead Author: Teresa M. Hargrave, M.D., M.P.H.
Co-Author(s): Judith Crawford
Jerrold Abraham
Andrew Hunt
Paula Rosenbaum

SUMMARY:

Background: The past twenty years have seen burgeoning interest in the role of early life stressors, not only in poor psychosocial and mental health outcomes, but also in more traditionally "medical" illness. This report examines the association of prenatal psychosocial adversity with repeat wheeze in the

first year of life, in infants genetically predisposed to asthma.
Methods: Labor and Delivery (LD) Records of the 103 mothers with asthma who participated in the EPA-funded AUDIT study (Assessment of Urban Dwellings for Indoor Toxins) were reviewed for the presence of prenatal psychosocial stressors. AUDIT was primarily designed to investigate the influence of multiple indoor environmental pollutants on the emergence of allergic propensities in the first year of life. LD forms routinely ascertained maternal alcohol/drug use, physical/sexual abuse, IV drug/HIV exposure, financial/extended family concerns, and whether the pregnancy had been planned/accepted. Where social service notes were present, it was possible to recover more detailed information about substance use, domestic violence, social supports and, in addition, mental health and learning problems. Health information was gathered on study infants during 4 tri-monthly home visits and from all medical records generated in the first year of life. Odds ratios (OR) were calculated for repeat wheeze (>1 episode/12 mo.) as a function of individual psychosocial stressors and demographic variables. Medicaid insurance was considered a proxy for low income.

Results: Study infants were predominantly poor (82% Medicaid eligible), nonwhite (62%), born in nonsummer months (68%) and had mothers who smoked at some time during pregnancy (53%). 39 infants wheezed in the first year of life; 18 had more than one episode. All who wheezed repeatedly were eligible for Medicaid. 14 (78%) were born during summer months. 76% had mothers who smoked at least some time during pregnancy. No other demographic variables correlated significantly. On the other hand, domestic violence (OR 6.0, (95% CI 1.95-18.44), maternal depression (OR 5.4 (95% CI 1.66-18.18), other mental illness (5.0 (95% CI 1.43-17.46), alcohol/drug involvement (OR 3.7 (95%CI 1.26-11.04) or "any psychosocial problem" (OR 3.6 (95% CI 0.95-13.31) were strongly predictive of repeat infant wheeze.
Conclusions: The AUDIT study strengthens existing evidence that prenatal psychosocial adversity contributes substantially to the epigenesis of wheezing symptoms in childhood. These associations were manifest in our study in the first year of life in infants whose mothers themselves had asthma.

NR6-33
RUMINATIVE RESPONSE STYLES AND METACOGNITION IN INTERNET ADDICTS

Lead Author: Oya Guclu
Co-Author(s): OMER SENORMANCI,RAMAZAN KONKAN,OYA GUCLU,GULIZ SENORMANCI

SUMMARY:

INTRODUCTION: According to the cognitive behavioral model, maladaptive cognitions about the self and the world may lead to Internet addiction (Davis, 2001). And, maladaptive cognitions have a key role in Internet addiction regardless of the culture (Mai et al., 2012). Caplan modified the cognitive behavioral model of Internet addiction, suggesting 4 main components, which include Preference for Online Social Interaction, Mood Regulation by Internet, Deficient Self-regulation and Negative Outcomes (Caplan, 2010).
Spada et al. investigated metacognitions as a mediator of the relationship between PIU and negative feelings (distress, depression, anxiety) in university students using the Internet. As a result, they found that there was a positive relationship between problematic Internet use and five dimensions of the Metacognitions Questionnaire-MCQ, including 'positive beliefs', 'cognitive confidence', 'uncontrollability and danger', 'cognitive awareness' and 'need of control' and negative feelings. These results support the assumption that the relationship between Internet addiction and negative feelings are totally mediated by metacognitions (Spada et al., 2008).
Response styles theory focuses on style or processing rather than content of thoughts in response to stressors (Nolen-Hoeksema & Morrow, 1991). Davis proposed that Internet addicts have repetitive thoughts about the causes and consequences of their Internet usage rather than focusing other events in their life, which, in turn, maintain or exacerbate their Internet addiction (Davis, 2001).
AIM: Although cognitive behavioral model of Internet addiction has been well described, studies on metacognitions and ruminative response styles related with Internet addiction are very limited. The aim of the present study was to compare metacognitions and ruminative response style in Internet addicts with a healthy control group.
METHOD: The study included 30 males who presented to our Internet Addiction Polyclinic, and diagnosed with Internet addiction, and a control of group of 30 healthy males with similar sociodemographic characteristics. A sociodemographic data form, Internet Addiction Test (IAT), Metacognitions Questionnaire (MCQ-30), Ruminative Response Scale-short version (RRS-SV), and Beck Depression Inventory (BDI) were used for data collection.
RESULTS: The mean age for the study group was 26.5±9 years vs. 24.3±6 years for the control group. The daily duration of Internet use was 9.6±2.3 hours in the study group while it was 2.9±1.3 hours in the control group. The BDI score for the study group was 18.9±13 vs. 6.7±5.6 in the control group. The IAT score was 49.2±13.8 in the study group, and 24.5±4.7 in the control group. The MCQ-30 and RRS-SV scores were higher in the study group for total and subscales. An intergroup comparison using Student's t-test showed a statistically significant difference between the MCQ-30 total (p=0.012), MCQ-30 uncontrollability and danger score (p=0.032), MC

NR6-34
SAFETY OF FLIBANSERIN VS. PLACEBO ADDED TO SSRI/SNRI THERAPY IN WOMEN WITH MDD AND DECREASED SEXUAL DESIRE WITH RELATED DISTRESS

Lead Author: Anita H. Clayton, M.D.
Co-Author(s): Harry Croft MD, San Antonio Psychiatric Research Center, San Antonio, TX
Leonard DeRogatis PhD, Maryland Center for Sexual Health, Lutherville, MD

SUMMARY:

Introduction: Study to assess the safety of flibanserin (5HT1A agonist and 5HT2A antagonist) treatment compared to placebo over 12 weeks in premenopausal women taking a

Selective Serotonin Reuptake Inhibitor (SSRI) or Serotonin-Norepinephrine Reuptake Inhibitor (SNRI) who had symptoms of decreased sexual desire and related distress.
Patients and Methods: Premenopausal women (n=111) with mild or remitted depressive disorder, taking an SSRI or SNRI, and experiencing symptoms of decreased sexual desire and related distress were randomized to a 12- week double-blind period of flibanserin (either 50 mg at bedtime with up-titration to 100 mg at bedtime after 2 weeks or initiation at 100 mg at bedtime) or placebo, followed by a one week post-treatment assessment. Primary study endpoint was the occurrence of adverse events during the treatment and post treatment periods.
Results: Mean age was 37.5 years. Slightly more patients on placebo (71.1%) experienced adverse events compared to those receiving flibanserin (65.8%). Overall, few patients experienced common/expected adverse events (< 18% receiving placebo and <5.5% taking flibanserin). No deaths or serious adverse events occurred. Two placebo patients (5.3%) discontinued due to an adverse event compared to 2 patients (2.7%) in the flibanserin group. Few patients experienced severe adverse events (2.7% in the flibanserin group vs. 2.6% in the placebo group). There was no increase in depression, anxiety, or suicidality, and no clinically important changes in laboratory tests, ECG, vital signs or weight with the addition of flibanserin 100 mg q.h.s. to either an SSRI or SNRI in a population of mild or remitted depressed premenopausal women.
Conclusions: Flibanserin 100 mg at bedtime was very well tolerated and did not increase risk when added to an SSRI or SNRI in this population of premenopausal women with mild or remitted depression.

NR6-35
SCREENING OF BIPOLAR SPECTRUM DISORDER IN COMMUNITY SAMPLE USING THE SMARTPHONE APPLICATION

Lead Author: Won-Myong Bahk, M.D.
Co-Author(s): Young Sup Woo,
Jeongwan Hong,
Bo-Hyun Yoon,
Tae-Yeon Hwang,
Moon-Doo Kim,
Duk-In Jon,
Sang-Yeol Lee,
Kwang-Heun Lee,
Young-Joon Kwon,
Sang-Keun Chung,
Kyung Joon Min

SUMMARY:

Objectives : The purpose of this study was to describe the prevalence of bipolar spectrum disorders in a large general population, using the Korean version of Mood Disorder Questionnaire (K-MDQ) smartphone application.

Methods : Data were collected between May 2011 and July 2011. The information collected includes data on age, gender, past psychiatric treatment history and K-MDQ.

Results : A total of 27,159 individuals participated in the survey, using a smartphone application. The prevalence of receiving positive screening results for bipolar disorder in 27,159 participants, using a smartphone K-MDQ application was 8.2%. K-MDQ positive group showed more frequent past psychiatric treatment histories. In a logistic regression analysis for subjects with past psychiatric history, age group significantly predicted K-MDQ positive.

Conclusions : The smartphone application may be a useful screening tool for a bipolar disorder. This study included only individuals who actively participated, and thus, a selection bias should be considered.

NR6-36
SIMULTANEOUS USAGE OF DEMENTIA MEDICATIONS AND ANTICHOLINERGICS AMONG ASIAN AND PACIFIC ISLANDERS

Lead Author: Junji Takeshita
Co-Author(s): Steven Takeshita
Deborah Goebert
Brett Lu
Alexandre Guilloux
Joy Higa

SUMMARY:

Introduction: Cholinesterase inhibitors and memantine are used to manage dementia. Anticholinergic medications, on the other hand, counteract the beneficial cognitive effects. Previous studies have shown high rates of concurrent prescriptions of cholinesterase inhibitors/memantine with anticholinergics.

Method: This study is a retrospective review of patients hospitalized from Jan 1, 2006-December 31, 2010 at a general hospital who simultaneously received FDA-approved dementia medications (galantamine, rivastigmine, donepezil, memantine) and anticholinergics.

Results: Asian patients received both anticholinergics and cholinesterase inhibitors/memantine less frequently than Native Hawaiian or Caucasian patients (8.4% vs. 12.2% and 13.3%, respectively ?2 = 16.04, df = 2, p < 0.0003). 67.8% were given high potency anticholinergic medications, 26.0% medium potency and 6.2% low potency. 24.5% received anticholinergics for urological indications, 25.9% gastrointestinal (excluding nausea), 10.4% nausea, 11.4% psychiatric and 27.8% other.

Conclusion: Simultaneous prescribing of cholinesterase inhibitors, memantine and anticholinergic medications is significantly less common compared with previous studies with some ethnic variability.

NR6-37
STANFORD IINTEGRATED PSYCHOSOCIAL AS-

SESSMENT FOR TRANSPLANTION (SIPAT): NEW TOOL TO PREDICT PSYCHOSOCIAL & MEDICAL OUTCOMES IN TRANSPLANT CANDIDATES.

Lead Author: José R. Maldonado, M.D.
Co-Author(s): Yelizaveta Sher, MD, Sermsak Lolak, MD, Psychosomatic Medicine Service, Stanford University School of Medicine

Danica Skibola, MD, Catherine Sullivan, MD, Psychiatry and Behavioral Sciences, Stanford University School of Medicine

Kim Standridge, Evonne David, LCSW, CQSS/Social Work, Transplantation, Stanford Hospital and Clinics

SUMMARY:
Background: With a limited number of available transplant organs, careful assessment of candidates is imperative. Medical criteria are well established for each end-organ system, but not psychosocial criteria. To address this, we developed and tested a new assessment tool: the Stanford Integrated Psychosocial Assessment for Transplantation (SIPAT) which evaluates known psychosocial risk factors for organ transplantation. The SIPAT has shown to have excellent inter-rater reliability (Pearson's correlation coefficient = 0.853), and high predictability of post-transplant psychosocial outcomes ($P < 0.001$).

Methods: Heart, lung, liver or kidney transplant candidates evaluated between 6/1/08 - 7/31/11 were assessed with the SIPAT by a social worker or psychiatrist. We analyzed clinical outcomes at the 1-year post transplant mark. Outcomes included: organ survival (primary outcome); and patient survival, rejections, medical re-hospitalizations, infections, non-compliance rates, psychiatric decompensation, failure of support system, and albumin levels (secondary outcomes). Patients with SIPAT score of < 20 were compared with patients with SIPAT score of > 21.

Results: A total of 217 patients were transplanted during the index period (46 heart, 58 lung, 58 liver and 55 kidney). Of these, 181 patients had SIPAT score of < 20, and 36 patients had scores of 21 – 68. There was no significant difference in the primary outcome, however, patients with higher SIPAT scores had significantly higher rates of psychiatric decompensation ($p=0.006$), non-adherence with medical treatment ($p=0.027$), and tended to have higher frequency of medical hospitalizations ($p= 0.057$). Moreover, patients with higher SIPAT scores who were medically hospitalized had more medical hospitalizations per person (2.23) as compared to those with lower SIPAT scores (1.32). Planned, continued surveillance of these patients may yield more significant results.

Conclusions: The SIPAT is a comprehensive screening tool designed to predict psychosocial and medical outcomes of organ transplant candidates. Results suggest the SIPAT is a promising tool which standardizes the evaluation process and identifies a risk for negative outcomes to which interventions may be applied to improve candidacy.

NR6-38

THE "PREDICTION OF ALCOHOL WITHDRAWAL SEVERITY SCALE" (PAWSS): A NEW SCALE FOR THE PREDICTION OF MODERATE TO SEVERE ALCOHOL WITHDRAWAL SYNDROME.

Lead Author: José R. Maldonado, M.D.
Co-Author(s): Yelizaveta Sher, MD, Sermsak Lolak, MD, Lauren Kissner, MD, Psychiatry and Behavioral Sciences, Stanford University School of Medicine

SUMMARY:
Background: Alcohol use disorder is the most serious substance abuse problem in the US, especially among hospitalized medically-ill patients (e.g., 20-50% suffer from alcoholism; 30% develop alcohol withdrawal symptoms [AWS], requiring pharmacological treatment). Several tools quantify the severity of clinical AWS (e.g., CIWA, AWSS), but none predict it. We developed a tool to identify those at risk for moderate to severe AWS.

Methods: We identified factors associated with AW severity through a comprehensive literature review and developed a 10-item scale to predict alcohol dependent patients at risk for developing moderate to severe AWS (i.e., seizures, hallucinosis, and delirium tremens). A pilot study (n=67) showed promising results (e.g., 100% sensitivity and specificity). We then designed a large prospective trial of 400 consecutive inpatients to test the PAWSS. With IRB approval and subjects' consent, each patient was assessed with PAWSS by at least one examiner to determine the risk for developing AWS, and also with the CIWA-Ar by a nurse administered up to 72 hours post admission to assess for the presence and severity of AWS.

Results: We have results for 177 patients, grouped by PAWSS score (Group A: PAWSS < 2; low risk for AWS (n=155 (87.5%)), and B: PAWSS >2; high risk for moderate to severe AWS (n=22 (12.4%)). 14 out of 22 patients (63.6%) in Group B had either elevated CIWA scores of at least 15 or above or were actively treated for AWS. None of the patients in Group A had elevated CIWA scores or were treated for AWS. Thus, so far sensitivity of the tool is 100 %, specificity is 95.1%, positive predictive value (PPV) is 63.6%, and negative predictive value (NPV) is 100%.

Conclusions: With analysis of partial data, the PAWSS appears to have excellent predictive characteristics. Using PAWSS and other customary clinical assessments will help clinicians identify those at risk to develop AWS and prevent and treat patients in the moderate to severe AWS range, while using only PRN management of patients at low risk. By prophylaxing only those subjects at high risk we seek to minimize the potential detrimental consequences of AW (e.g., sedation, delirium, respiratory depression, intubation) and even minimize recidivism of alcohol abuse.

NR6-39

THE COURSE OF SLEEP DISTURBANCES IN EARLY ALCOHOL RECOVERY: AN OBSERVATIONAL COHORT STUDY

Lead Author: Bhanu Prakash Kolla, M.D.
Co-Author(s): Terry Schneekloth[1], MD
Joanna Biernacka [1] [2], PhD
Meghna Mansukhani[3], MD
Jennifer Geske[2], MS
Victor Karpyak[1], MD
Daniel Hall-Flavin[1], MD
Larissa Louikianova[1], MD
Mark A. Frye[1], MD

[1] Department of Psychiatry and Psychology, Mayo Clinic
Rochester, MN, USA.

[2] Division of Biomedical Statistics and Informatics, Department of Health Sciences Research, Mayo Clinic
Rochester, MN, USA.

[3] Center for Sleep Medicine, Mayo Clinic
Rochester, MN, USA.

SUMMARY:
Introduction:
Understanding the course and determinants of sleep disturbances in alcoholic patients may help identify patients at high risk of persistent sleep problems, relapse and guide treatment interventions.

Methods:
We prospectively administered the Pittsburgh Sleep Quality Index (PSQI) to all patients (N=196) admitted to a one-month residential treatment program. Our analysis excluded patients with active drug abuse/dependence. Demographic data, psychiatric diagnoses, Patient Health Questionnaire-9 (PHQ-9), Alcohol Use Disorders Identification Test (AUDIT) and Inventory of Drug Taking Situations (IDTS) scores were obtained. Univariate and logistic regression analyses were performed using sex, age, hazardous alcohol use, PHQ-9 scores, hypnotic use, and use of alcohol as an hypnotic as correlates to admission PSQI scores and improvement in PSQI scores.

Results:
A total of 119 alcoholic patients met the inclusion criteria (mean age 50.6±13.2 years). The rates of sleep disturbances at admission and discharge were 69.3% and 49.1% respectively. Self report of using alcohol to help fall asleep and the use of hypnotics were associated with elevated PSQI scores. Total PSQI scores improved over the 4 weeks ($p<0.001$). Change in PSQI score was not effected by gender, use of hypnotics, hazardous alcohol use, use of alcohol as a hypnotic or co-morbid psychiatric diagnosis. Older age was found to predict improvement in PSQI scores in patients with sleep disturbances ($p=0.004$).
Conclusion:
A large proportion of alcoholics had sleep disturbances upon admission and at discharge from a residential treatment program. Only older age was associated with improvements in sleep disturbances during early alcohol recovery in a residential treatment program.

NR6-40
THE EFFECT OF MINDFULNESS BASED GROUP THERAPY ON THE DEPRESSION, ANXIETY AND QUALITY OF LIFE IN KOREAN PATIENTS WITH BREAST CANCER

Lead Author: Sang Yeol Lee, M.D., Ph.D.
Co-Author(s): Hye Jin Lee, Ph.D., Chan Mo Yang, M.D., Min Cheol Park, M.D., Ph.D.

SUMMARY:
Objective : This is an exploratory, quasi-experimental study to investigate the effects of mindfulness based group therapy on the depression, anxiety and quality of life in Korean patients with breast cancer .
Methods : 24 of 60 patients with breast cancer, aged 35 to 65 who underwent surgery at least 1 year after completed chemotherapy or radiotherapy were randomly assigned to either a control group or experimental group. The experimental group received 90 minutes of mindfulness based group therapy in weekly sessions over a period of 3 months, while the control group had continued daily routines(no action). Personality Assessment Inventory(PAI) was used to assess the effect of therapy on depression and anxiety. Korean version of European Organization for Research and Treatment of Cancer Quality of Life Questionnaire-C30(EORTC-QoL-C30) was used to assess quality of life.
Results : Mindfulness based group therapy had significant effects on the anxiety and depression. Global quality of life and physical, cognitive, and social functions of EORTC-QOL-30 were improved after Mindfulness based group therapy compared to the control group, but there was no significant effect on the role and social function. Fatigue, nausea and vomiting, pain, constipation, diarrhea and sleep disturbance of EORTC-QoL-C30 in the experimental group were significantly improved after Mindfulness based group therapy compared to the control group.
Conclusion: Mindfulness based group therapy may have beneficial effects on depression and anxiety, and improve quality of life and symptoms in Korean patients with breast cancer.

NR6-41
THE EFFECTS OF SMARTPHONE AND INTERNET/COMPUTER ADDICTION ON ADOLESCENT PSYCHOPATHOLOGY

Lead Author: Jonghun Lee, M.D., Ph.D.
Co-Author(s): Kwangheun Lee, MD, PhD
Taeyoung Choi, MD, PhD
Jungmin Woo, MD, PhD
Minjae Seo, MD

SUMMARY:
Objectives: The smartphone has given us many conveniences

and benefits. However, adverse effects have also emerged. While it is well known that internet/computer addiction can affect mental health in adolescents, information about the effects of smartphone addiction is relatively limited. We evaluated the relationships among smartphone addiction, internet/computer addiction and psychopathologies in adolescents.
Methods: 195 adolescents in local community participated in this study. The severity of addiction was measured through the '2010 Smart-phone Addiction Rating Scales (SARS)' and 'Young Internet Addiction Scale (YIAS)'. The psychopathologies of the subjects were evaluated with the Korea-Youth Self Report (K-YSR). We evaluated the correlations among SARS, YIAS and K-YSR using Pearson's correlation and the differences of the K-YSR score depending on each degree of smartphone and internet/computer addiction by one-way ANOVA.
Results: The total score of the SARS and the YIAS showed positive correlation (r=0.451, p <0.001). The total score of the SARS (r=0.469, p<0.001) and YIAS (r=0.440, p<0.001) had positive correlations with the total problematic behavior score of K-YSR, respectively. We divided the subjects into four groups which were the L-L group (low internet/computer addiction – low smartphone addiction), L-H group (low internet/computer addiction – high smartphone addiction), H-L group (high internet/computer addiction – high smartphone addiction), H-H group (high internet/computer addiction – high smartphone addiction) depending on the mean value of the addiction score. ANOVA revealed a significant difference among these groups (problematic behaviors (F= 17.275,P<0.01), internalizing problems (F= 11.784,P<0.01), externalizing problems (F= 10.883,P<0.01)). Post-hoc analysis showed that there was a statistically significant difference between L-L group and the other groups on total problematic behaviors and internalizing problems (Scheffé, P<0.01 and P<0.01). In case of externalizing problems, there was a significant difference between L-L group and H-H group (Scheffé, P<0.01).
Conclusion:
It is evident that the higher the addiction rose, the more severe the psychopathologies were, regardless of addictive patterns. The effects of smartphone addiction are not different from those of internet/computer addiction. The number of adolescents who are addicted to smartphone use is likely to increase as the popularization of smartphone is an inevitable social trend. We should try to screen smartphone addiction as well as internet/computer addiction in adolescents.

NR6-42
THE USE OF TECHNOLOGY-BASED COMMUNICATION AND THE IMPACT ON THE SOCIAL FUNCTIONING OF SOCIAL PHOBICS

Lead Author: Michael Van Ameringen, M.D.
Co-Author(s): William Simpson, BSc, McMaster University
Beth Patterson, BScN, RN, BEd, McMaster University

SUMMARY:
BACKGROUND: Current reports have indicated that over the past decade, people are spending less time socializing face to face and talking on the phone; while the proportion of the population who is spending their leisure time using the internet has increased nearly 5-fold. There is emerging literature examining the effects of increased internet use/technology on social behavior. Some studies report that technology has increased the social sphere of those who already had a lot of friends, while others have indicated that online communication compensates for a lack of a social life. Social phobia is an anxiety disorder which has a profound impact on communication; social phobics have also been found to be high users of the internet. The impact of internet use on the social functioning of individuals with social phobia was examined in an internet survey.
METHOD: In September 2012, a survey was posted on the website of a Canadian anxiety research centre asking respondents about the reasons for and time spent on the internet during their leisure time. The survey asked about online friendships, social media participation and preferred communication style. Participants also completed a validated, self report screening tool for anxiety and depression, measures of functional impairment and symptom severity.
RESULTS: Of the 147 who had completed the survey, 87 had social phobia (mean Sheehan Disability Scale-SDS-score 17.63±6.21). One third of social phobics (29%) were high internet users (>3 hours of leisure time/day). Compared to low users, high users were younger (p=.001) had lower levels of education, and were more likely to have met friends online (60% vs. 22.6%, p<.001). High internet users (vs. low) showed more impairment on the social subscale of the SDS: 7.8±2.0 vs. 6.7±2.3, p=.04 as well as higher scores on the Social Phobia Inventory (SPIN) (44.32±13.9 vs. 37.6±11.79, p=.02). "Severe" social phobia (SPIN ?40) was associated with heavy internet use (41.5% vs. 17.4%, p=0.013). Nearly 61% of social phobics had people with whom they communicated exclusively online. Amongst those who had met friends online, 44.8% felt "neutral" about these friends whereas, 55.2% felt close or very close to friends they had met in-person. Approximately 46%would send a text message and 41.4% would use the internet to avoid face to face communication, and 60% would text to avoid a telephone conversation. Nearly 58% felt that internet has not changed the quality of their social relationships, although 32.2% said the internet has made it easier for them to avoid socializing. If available, 74.7% said they would be motivated to obtain anxiety treatment online.
CONCLUSIONS: Social phobia was associated with high internet use during leisure time. Given the high use of the internet by Social Phobics for social interaction, technology based treatments may improve access to treatment and improve social functioning.

NR6-43
TRAUMA'S SHORT-TERM AND ENDURING EFFECTS ON MIND AND BODY: STUDIES OF SURVIVORS OF THE OKLAHOMA CITY BOMBING AND HURRICANE KATRINA

Lead Author: Phebe M. Tucker, M.D.
Co-Author(s): David Tiller, M.D., Department of Psychiatry, University of Oklahoma Health Sciences Center

Rachel Dalthorp, M.D., Department of Psychiatry, University of Oklahoma Health Sciences Center

SUMMARY:
Trauma has diverse and often enduring effects on survivors' minds and bodies. We will share results of our neurobiological research exploring short-term effects of direct exposure to both Hurricane Katrina and relocation on adults and adolescents, and the long-term effects of intense exposure to the 1995 Oklahoma City terrorist bombing on adults.
We assessed 34 relocated adults directly exposed to Hurricane Katrina or ensuing floods. We measured their PTSD and depression symptoms and diagnoses, Interleukin-6 (a pro-inflammatory cytokine), heart rate and blood pressure responses to trauma reminders, and heart rate variability. All measures were compared with those of demographically matched Oklahoma controls. Both groups had high lifetime trauma exposure, with PTSD diagnosed in 35% of survivors and 12% of controls. Katrina survivors had higher PTSD and depression symptoms than controls, within clinical illness ranges. Survivors had higher baseline heart rates and mean arterial blood pressure reactivity than controls, higher IL-6 than nontraumatized controls and higher IL-6 in the presence of PTSD. Depressed survivors, but not those with PTSD alone, had dysregulated heart rate variability. These results showed that this multilayer trauma impacted the autonomic nervous system and a pro-inflammatory cytokine, both linked with cardiovascular problems. Results are discussed in relation to higher rates of myocardial infarcts in New Orleans after Katrina. Our pilot study of relocated adolescent Katrina survivors found more PTSD and depression symptoms compared to controls, and lower cortisols, consistent with studies of PTSD. Pro-inflammatory IL-6 was not increased with PTSD, but IL-2 (cell-mediated immunity) correlated with cortisol. Trauma affected youth's HPA axis and cell-mediated immunity cytokine, but in contrast to adults, was not linked with a pro-inflammatory response. Youth may lack inflammatory responses seen in adults, or may have some resilience. We compared 60 direct survivors of the Oklahoma City bombing (84% injured) with controls 7 years post-disaster. While survivors' PTSD and symptoms were below clinically relevant levels, they had greater autonomic reactivity to trauma reminders on all heart rate and blood pressure measures. Thus, while emotionally resilient, they had enduring biological responses which may enhance their response to future disasters or contribute to somatic symptoms or later medical problems. Survivors had changes in cortisol levels with PTSD. Results infer that autonomic reactivity may be a generalized long-term response to trauma, while HPA axis changes are linked with PTSD.
Our studies of traumatized adults and adolescents elucidate changes in the autonomic, neuroendocrine and immune systems that may last for years. Health implications are unclear, and will be discussed in relation to studies linking trauma with later cardiovascular and other medical problems.

NR6-44
ASSESSING THE RELEVANCE OF CONSUMER ENGAGEMENT AND INCENTIVE PROGRAMS IN A COMMUNITY-BASED MENTAL HEALTH SETTING

Lead Author: Raymond Kotwicki, M.D., M.P.H.
Co-Author(s): Kimberly D. Farris, PhD
Philip D. Harvey, PhD

SUMMARY:
Background. Previous literature notes that significant numbers of individuals with severe mental illnesses are often difficult to engage in treatment services. Non-engagement in community-based models of service delivery presents a major obstacle increasing risk for re-hospitalization/relapse. This is particularly important given the fact that many treatment interventions are limited in duration by insurance, meaning that immediate engagement may be required for optimal outcomes.

Methods. Skyland Trail's Milestones of Recovery Engagement Scale (SMORS) is an adaptation of the Milestones of Recovery Scale (MORS). This scale quantifies stages of recovery using range of milestones from complete disengagement to advanced recovery. The rating range from 1 to 6 and are generated by consensus reached between the primary counselor and treatment team. Patients who achieve a minimum threshold for a 4-week period are eligible for a financial incentive. All private pay families are eligible for the financial assistance award. Patients must receive a rating of 4.5 to "qualify" for assistance and consistently high ratings lead to an increased amount of assistance (up to 20%). Change in ratings to less than 4.5 leads to lowering assistance amount.

Results. Approximately 41% (N=133) of patients received financial assistance for at least one month during 2011, 18% for 2 months, 14% for 3 months, 20% between 4-6 months, and 7% between 7-9 months. Of the patients who achieved the milestone for a four week period, the risk of reductions in SMORS scores was minimal: 88% or more of the cases who received an incentive based on the first four weeks of treatment received SMORS scores in the qualifying range in weeks 5-8 of treatment. However, for cases whose first 4 week scores were less than the threshold of 4.5, less than 50% achieved that threshold on any of the subsequent 4 weeks of assessments.

Implications. Individuals who demonstrated significant engagement in treatment received financial incentives. These individuals were very unlikely to lose those incentives over time. However, lower scorers showed only about a 50% rate of increased engagement. Our interpretation of the results is that incentives can serve to sustain motivation of initially engaged cases with high levels of success, but there are a substantial proportion of cases where the provision of incentives does not lead to increased engagement. These cases likely require additional strategies to promote increased engagement in treatment.

NR6-45
MEDICAL COMORBIDITIES IN AN ACUTE INPATIENT SETTING

Lead Author: Jessy Warner-Cohen, M.P.H., Ph.D.
Co-Author(s): Noman Afzal, MBBS

A. Jill Clemence, Ph.D.
Laura Diamond, M.D.
Victoria Balkoski, M.D.

SUMMARY:
The role of medical comorbidities is a crucial aspect of treating psychiatric patients, with over two-thirds of patients having at least one medical diagnosis (Druss et al. 2011). For example, research has highlighted the burden of medical illness in patients with bipolar disorder (Rama et al, 2005; Soreca et al. 2008). There may be a bidirectional effect of psychiatric conditions negatively affecting medical care and vice versa (Druss et al. 2011). It is important, therefore, to understand the medical issues affecting our patient population. One measure of medical comorbidities is the Cumulative Illness Rating Scale (CIRS; Linn et al. 1968, Hudon et al. 2007). The CIRS is divided into 14 systems and allows for rating severity of illness in each system. Although the CIRS has been used in general medical settings (Huntley et al. 2012, Zekry et al. 2010), within the psychiatric population is has generally been limited to geriatrics (Papakostas et al. 2003). The present study aims to better understand medical comorbidities and explore the use of the CIRS within an inpatient psychiatric floor.

These data were retrospectively collected regarding patients discharged from a hospital inpatient psychiatric floor over 50 days time. During this time 87 patients presented on the floor. The majority of patients were referred through the hospital's crisis intervention unit (62.1%) but a sizable group from general medical floors (23%). Average length of stay was 9.51 days but that varied from 2 days to 45. Mean age was 38.28. In this sample, 63.2% had some medical diagnosis, with many having multiple diagnoses. The highest proportion had chronic pain (14.9%) followed by hypertension (13.7%). Equal numbers had hypothyroidism and neurological issues (11.4%).

When calculating CIRS score, the psychiatric score was not included to better differentiate medical comorbidity from psychiatric illness. Since every patient was severely psychiatrically impaired, they scored the highest ratings for the psychiatric system and if included it would artificially diminish variance in outcome scores. Patients ranged in score from 0 to 14, with a mean intake score of 3.2. Logistic regression indicates increased CIRS score with greater age (b=0.09, p=0.02). When CIRS score was dichotomized to above and below average, there was a significant effect of gender on CIRS cutoff with females (b=-0.3, p=0.03) and those with hypothyroidism (b=0.4, p=0.03) being more likely to be in the high score group. There was a positive association between having an Axis II disorder and reports of significant pain (F=9.5, p=0.003).

This study is important in better understanding our patient population and their medical comorbidities. This study indicates that the majority of patients have medical comorbidities. These comorbidities are affecting by age, gender, specific medical conditions, and Axis II diagnosis. Future research should look at the role these variables have on course of illness.

MAY 20, 2013

POSTER SESSION 7
YOUNG INVESTIGATORS 2

NR7-01
5-HTTLPR AND BDNF VAL66MET POLYMORPHISMS INFLUENCE ON THE SUICIDAL IDEATION IN MAJOR DEPRESSION

Lead Author: Kyu-Man Han, M.D.
Co-Author(s): Hun Soo Chang, Ph.D, Byung-Joo Ham, M.D., Ph.D., In-Kwang Choi, M.D., and Min-Soo Lee, M.D., Ph.D.

Department of Psychiatry, College of Medicine, Korea University, Seoul, Republic of Korea

Corresponding author at: Min-Soo Lee, M.D., Ph.D. Department of Psychiatry, Anam Hospital, Korea University College of Medicine, Anam-dong, Seongbuk-gu, Seoul,
136-705, Republic of Korea
Tel: +82-2-920-5354; Fax: +82-2-923-3507; E-mail address: leeminso@korea.ac.kr

SUMMARY:
Objectives: Increasing evidence demonstrates that the polymorphisms of serotonin transporter linked polymorphic region (5-HTTLPR) and brain-derived neurotrophic factor (BDNF) Val66Met are most likely genetic candidates in suicide. However, there were few studies focused on the association between these polymorphisms and suicidal ideation, not suicidal attempts on patients with major depression. Aim of this study was to investigate the influence of the 5-HTTLPR and BDNF Val66Met polymorphism on the suicidal ideation in major depression patients with relatively low proportion of suicidal attempter.

Methods: A total of 115 patients diagnosed with major depression were recruited for the study and their suicidal ideation, severity of depression and impulsivity were evaluated using Beck Scale for Suicidal Ideation (SSI), 21-Halmilton Depression Rating Scale (HDRS), and Barratt Impulsiveness Scale (BIS). The association between the polymorphisms of 5-HTTLPR and BDNF Val66Met and the score of SSI was investigated at baseline and after 8 weeks of escitalopram treatment using multiple linear regression analysis controlling for sex, age and HDRS scores.

Results: The SSI scores of S allele carriers of 5-HTTLPR and M allele carrier of BDNF Val66Met were greater than those of L allele and V allele homozygotes respectively at baseline on the analysis of multiple linear regression (both comparisons, $p<0.001$). After 8 weeks of escitalopram treatment, the SSI score of S allele carriers was greater than that of L allele homozygotes significantly (p=0.001), however, SSI score of M allele carriers was not differ with that of V allele homozygotes

significantly. The percentage of reduction on SSI score during the 8-weeks of escitalopram treatment was lower in S allele carriers than in L allele homozygotes (p=0.003), however, there was no difference between those of M allele carriers and V allele homozygotes.

Conclusions: Results of our study suggest that patients with S allele of 5-HTTLPR and M allele of BDNF Val66Met polymorphisms have greater suicidal ideation than those with L allele and V allele homozygotes and S allele is a favorable factor in the reduction of suicidal ideation on escitalopram treatment.

NR7-02
A CASE OF POST TRAUMATIC BRAIN INJURY PSYCHOSIS OR LATE ONSET SCHIZOPHRENIA?
Lead Author: Shanel Chandra, M.D.
Co-Author(s): Rashi Aggarwal, MD
Anbreen Khizar, MD

SUMMARY:
INTRODUCTION: Psychosis due to traumatic brain injury (PD-TBI) is a serious neuropsychiatric sequelae that can produce emotional and behavioral disturbance in the affected person. Incidence ranges from 0.7-20% and mean onset of duration of symptoms from physiological insult ranges from 3 months to 19yrs. It is always a challenge to establish a relationship between TBI and psychosis. It is seen that majority of patients with PD-TBI also have history of seizures thus showing comorbidity between psychotic symptoms, head injury and seizure disorder. We report a patient who had TBI, seizure disorder and developed psychosis.

CASE: We present a case of 55 year old African American female with no previous past psychiatric history, brought in by the family member as the patient was found to be hearing voices. Patient had suffered TBI followed by a bleed secondary to a seizure 1 yr ago. 6 months ago, patient started having paranoid ideation, feeling that neighbors upstairs are after her and trying to hurt her. Patient started feeling scared and was keeping to herself all the time. For the past 2 months, patient was found to be internally preoccupied with self-dialogue, hearing multiple voices, cursing her. Patient denied any symptoms of depression or mania.

Discussion: The most important differential in this case is schizophrenia, which usually is difficult to differentiate due to similar symptomatology. Patient's advanced age, temporal association with traumatic brain injury, predominance of psychotic features over negative symptoms and presence of concomitant seizures favored a diagnosis of PD-TBI over schizophrenia in this patient. PD-TBI could be added to the spectrum of presentation in post-concussion syndrome and further studies are warranted regarding prevention and management of PD-TBI.

NR7-03
PERVASIVE REFUSAL SYNDROME: A STORY UNTOLD
Lead Author: Shanel Chandra, M.D.
Co-Author(s): Mariam Bekhit, MD

SUMMARY:
Pervasive Refusal syndrome is an interesting psychiatric disorder yet to be described in DSM. It is a syndrome involving predominantly teenagers in which patient refuses to eat, drink, walk, engage, showing active resistance to every help offered, thus making "resistance" ,the most important component of this condition. Etiology is complex and involves hopelessness and learned helplessness, thus affecting every domain of life leading to endangered state. Most of the times it is underdiagnosed as it has overlapping symptoms with major depressive disorder and catatonia. Treatment is not well defined but requires inpatient psychiatric hospitalization with involvement of mutimodal, multidisciplinary teams including pediatricians, nutritionists, psychotherapists and physiotherapists. We present a case of a 16 year old african american girl who had been unfortunate to experience the divorce of her parents with her father not being regular in visiting her. At presentation, the patient was struggling with depression, poorly responding to treatment for the past 3 yrs and had had 5-6 admissions in the past 2 yrs itself. She was admitted to child and adolescent floor,after being found severely depressed, catatonic, resistant and lying in a cardboard like sheet in bed, most of the times in fetal position. She was put on venlafaxine, lorazepam, olanzapine and mirtazapine for symptomatic management. Patient's main cause of frustration and anger was her father not visiting her. Patient slowly showed some improvement and was discharged to partial hospital program, but became noncompliant with the appointment and treatment very soon. Patient decompensated again and ended up in the hospital with similar presentation. Multiple disciplinary teams were involved, including nutritionist, pediatrician, psychotherapists, physiotherapists. Both 1:1 and group therapists were involved. Patient's voice became so soft, that team had to communicate to her by writing letters and that too patient being in fetal position. With continued pharmacotherapy and psychotherapy, patient was discharged again to a long term treatment plan. She had to be readmitted for similar symptoms and this time started forcing team to discharge her and scatching her face in frustration for which she had to be put under physical restrains multiple time. Intensive treatment and psychotherapy was continued with consistent encouragement from the team. Till date, patient is in an inpatient unit and is slowly and gradually improving. She continues to eat, drink, bath, going to groups under direct care of multiple teams. Our case shows, a patient in her teens, with classic symptoms of PRS, who after being exposed to intense stressors was not able to cope with it, and developed learned helplessness. In the same lines, till date PRS has been helpless to find a desciption in DSM IV or ICD-10. We think that it should be considered under MDD severe and recurrent or Oppositional defiant disorder.

NR7-04
A CASE REPORT ON GUANFECINE WITHDRAWL HYPERTENSION IN A PATIENT ON LONG ACTING STIMULANT FOR ATTENTION DEFICIT DISORDER
Lead Author: Shama Faheem, M.D.

Co-Author(s): Taranjeet S. Jolly, M.B.B.S., M.D., Bakul Parikh, M.D.

SUMMARY:
Introduction: Attention deficit hyperactivity disorder (ADHD) is a cause of significant impairment in adults who also have high rates of comorbid psychiatric disorder and suffer significant relationship dysfunction, work and educational failure.The adulthood disorder occurs as a continuation of its childhood counterpart, with the full ADHD syndrome persisting into early adulthood in about a third of those with childhood ADHD. The prevalence of this disorder in the United States is 3-5% in addults. Stimulants remain the US FDA-approved medical treatment of choice for patients with ADHD and are associated with an exceptional response rate.Small but statistically significant increases in blood pressure (BP) and heart rate (HR) are among the adverse events of stimulant treatment in all age groups. Guanfacine extended release (GXR) is an alpha 2 noradrenergic agonist that has been approved by the FDA for the treatment of Attention-Deficit/Hyperactivity Disorder as a monotherapy, and as an adjunctive therapy to stimulants for the treatment of ADHD in children and adolescents age 6 - 17.Small decreases in BP and HR have been observed in studies with guanfacine-extended release(-XR), administered alone or in combination with psychostimulants to children and adolescents with ADHD.

Case Report:This is a case report about a 24 year old caucasian female who was diagnosed with ADD when she was 13 years old and has been on and off stimulant medications for past few years. She had been on Concerta 54 mg/day and Guanfecine 1mg/day at the time of her initial visit. She continued to complain of lack of focus and organizational problems on her current dose. We increased her Concerta to 72 mg/day and also stopped her Guanfecine. Her parents reported a high blood pressure of 144/88mm Hg and her not feeling well, within 1 week of the change. We stopped her Concerta but her blood pressure at next visit was still 140/80mm Hg. We then re-started her on Guanfecine 1.5 mg in 2 divided doses/day . Patient's BP came down to 100/80 mmHg and was feeling better within a week. We started her on Concerta 54 mg/day and increased the Guanfecine to 2mg/day in divided doses in her following visit. Patient's blood pressure in all her subsequent visits was within the normal range. This was an interesting case of guanfecine withdrawl leading to rebound hypertension in a patient already on extended release stimulants.

Discussion: This is an interesting example which reemphasizes the known fact that sudden withdraw of anti-hypertensive medicines can cause rebound hypertension. Sudden withdrawl of Guanfecine an ?(2)- receptor agonist(which is an anti- hypertensive as well as an approved monotherapy for ADHD in child and adolescents) can lead to rebound hypertension, in a patient with previously unknown history of hypertensive side effects on long acting stimulant medications.We as psychiatrists should be more mindful of these effects while using such drugs with other psychotropics.

NR7-05
A CRITICAL REVIEW OF THE FINDINGS IN STUDIES COMPARING GENDER RELATED FACTORS IN BODY DYSMORPHIC DISORDER

Lead Author: Himanshu Tyagi, M.D.
Co-Author(s): Dr Rupal Patel
Dr Pratima Singh
Dr Lynne M Drummond

SUMMARY:
Gender is integral to the cognitive construct of the body image of self and others. It is therefore imperative that there would be gender specific differences in any disorder of body image. Body Dysmorphic Disorder (BDD), which is characterised by an excessive preoccupation with an imaginary or trivial bodily attribute causing disproportional distress, is an example of one such body image disorder. We did a literature review of gender specific differences in BDD for the purpose of identifying unique factors which can be used to improve the efficacy of cognitive behavioural treatment for this illness.

A literature search was performed on pubmed, web of knowledge, conference abstracts and individual journals in this area. The following search terms from MeSH database were used to identify the relevant research articles: [included in final poster]. Translations were obtained for articles which were in languages other than English. A manual review of the references quoted in identified studies was done to identify any additional studies. Studies which fit the following criteria were included in the final list:
1. The primary aim of the study is to compare gender specific differences in BDD.
2. The sample population consisted of patients with a primary diagnosis of BDD.
3. The diagnosis of BDD was made in a clinical setting by a mental health clinician by using either DSM or ICD criteria following a clinical interview.
4. The study used standardised diagnostic criteria for diagnosing BDD.
5. The gender specific data (both significant and insignificant findings) were made available in the published text.
In the final shortlist of seven studies, the following studies were excluded as they did not meet the criteria specified above: Marques et al 2011, Taqui et al 2008, Woodie et al 2009. Following four studies as meet our criteria for inclusion in the final analysis, giving us a pooled sample size of 500 (286 Females & 214 Males).
1. Philips, K. et al 1997 – USA, Sample size: 188 (93 Females & 95 Males)
2. Perugi et al 1997 – Italy, Sample size: 58 (24 Females & 34 Males)
3. Philips, K. et al 2007 – USA, Sample size: 200 (137 Females & 63 Males)
4. Tyagi 2011 – UK, Sample size: 54 (32 Females & 22 Males)

Our analysis of 500 patients reiterated the findings reported by all earlier studies that there are more similarities than differences between males and females. Some gender differences

which were found to be significant were consistent with the findings of the individual studies. There were fewer differences in terms of preoccupation with body parts, but comparatively larger differences in terms of social and demographic factors between the two genders. Men were more likely to be preoccupied with their genital organs and females were more likely to be involved in camouflaging behaviour (which was grouped together as one variable for the purpose of this analysis). No difference in clinical risk posed by this illness was noted between the two genders.

NR7-06
ACUTE CEREBRAL ATROPHY DUE TO AXONAL INJURY AFTER TB: USE OF BIOMARKERS

Lead Author: Kiran Majeed, M.D.
Co-Author(s): Ali Bokhari, MD

SUMMARY:

Introduction:
Traumatic brain injury is a leading cause of death and disability in young people with about 2 million new cases reported in the United State each year. It has been reported as "'a silent epidemic'".Approximately 5.3 million American live with long term disability as a result of TBI. This condition present with disabling cognitive and neuropsychiatric symptoms.
Case Report:

The case history highlights historical aspects of recovery process of a 22 year old African American male who attempted to kill himself by jumping from the third floor of a building, sustaining injuries to his head with loss of consciousness and hemothorax following multiple rib fractures. Patient was kept on ventilator in a community hospital for 21 days prior to his admission in CCU. Patient exhibited agitation and restless during the process of weaning from ventilator. Patient required tracheostomy and management of delirium. Patient had a CT scan and MRI of brain, which was remarkable for atrophic changes unusual for patient's age along with blood products on MRI.

Conclusion:
Contusion and focal brain injury is very common with Traumatic brain injury which is easily identified using conventional CT and MRI. However there presence and location don't explain clinical out come. Diffuse axonal brain injury is a key determinant of outcome after severe TBI which is not well explained by CT or conventional MRI. Advanced bio-markers are uniquely suited to detect and localize many of the pathologic and pathophysiologic alterations resulting from TBI. These include susceptibility-weighted imaging (SWI), diffusion-weighted imaging (DWI), diffusion tensor imaging (DTI), and magnetic resonance spectroscopy (MRS). These will allow clinicians to stratify patients into specific treatment groups and will improve their out come.

NR7-07
ATYPICAL PRESENTATION OF CONVERSION DISORDER: A CASE REPORT

Lead Author: Kiran Majeed, M.D.
Co-Author(s): (1) Adil A. Mohammed, M.D.
(2) Harvinder Singh, M.D.
(3) Jessica Kovach, M.D.
(4) John Harding, M.D

SUMMARY:

BACKGROUND:
Conversion disorders can present with a wide variety of sensorimotor signs and symptoms that cannot be explained by anatomic or physiologic pathways. The purpose of this case report is to present a case of conversion disorder with atypical presentation.

CASE DESCRIPTION:
Mrs. M is a 55 year old Caucasian female with no past psychiatric history who had undergone spinal surgery for cervical spinal stenosis in March 2011. Post surgery when cervical braces were removed, she was unable to hold her head in position and two weeks later she started having hand tremors, cervical muscular spasms, abnormal involuntary jerky movements in her upper extremities, abnormal gait and tingling sensation in her fingers and feet. Mrs. M was able to perform some of her activities of daily living but required assistance in most of the household chores and activities. On initial presentation Mrs. M reported depression, abnormal movements and decreased functioning. She was diagnosed with Major Depressive Disorder and Conversion Disorder. A thorough medical workup including neurologic exam, magnetic resonance imaging and electromyography revealed no organic causes for her neurologic deficits. Mrs. M's symptoms were precipitated by the death of her mother two weeks prior to her surgery. Mrs. M's ambivalent feelings toward her mother began during childhood and included anger and an unconscious wish for the death of her mother. Mrs. M's abnormal movements helped her avoid conscious confrontation of her unacceptable anger as well as guilt related to her anger. Psychotherapy focused on expanding the patient's insight into her anger towards her mother and it's expression. Mrs. M was started on Citalopram 10mg HS and was uptitrated to Citalopram 20mg po HS. Pt was able to achieve complete remission of her depression in 3 months. Mrs. M's abnormal movements improved significantly over the course of treatment over 8 months. Mrs. M has very minimal abnormal movements which do not cause distress or impairment in functioning.

CLINICAL IMPLICATION:
Most conversion disorders resolve spontaneously within a few days of the onset of symptoms, and over 90% resolve within a month. The prolonged symptoms in this case are a poor prognostic indicator. Mrs. M had an atypical and mixed presentation of conversion disorder, which accounts to 8-14% of conversion disorder presentations. Good prognostic indicators include acute onset, presence of clearly identifiable stress at the time of onset, a short interval between onset and the institution of treatment, above-average intelligence, aphonia

and blindness. Poor prognostic indicators include long duration of symptoms, delay in initiation of treatment, tremors and seizures. Treatment options for the patient include supportive-expressive psychotherapy, behavior modification, physical therapy, hypnosis, and medications. Our patient responded well to a combination of antidepressant (Citalopram) and psychotherapy.

NR7-08

ASSOCIATION OF CORTICAL THICKNESS TO COGNITIVE FUNCTIONING IN LATE LIFE DEPRESSION

Lead Author: Melissa Hirt, M.A.
Co-Author(s): Melissa S. Hirt, Alana Kivowitz, J C. Nelson, Scott Mackin

SUMMARY:

Up to 15% of adults over the age of 65 suffer from late life depression (LLD) and the economic cost of LLD to society is tremendous. Cognitive impairment (CI) occurs in up to 60% of individuals with LLD and represents one of the most debilitating and costly aspects of this disorder. CI in LLD is often characterized by deficits of information processing speed (IPS) and memory. However, the causes of CI in LLD are not yet clear and most previous studies have focused on associations of white matter lesions (WML) to CI. Given recent findings demonstrating that LLD is associated with reductions in cortical thickness, we hypothesized that cortical thickness would show stronger associations with cognition than WML. Participants included 41 LLD individuals and 21 age matched controls. Depression was evaluated using the Structured Clinical Interview for the Diagnoses of DSM-IV Disorders (SCID). Depression severity was measured using the Hamilton Depression Rating Scale (HDRS). IPS was assessed using the Symbol Digit Modalities test and memory was assessed by performance on the Hopkins Verbal Learning Test (HVLT). Each participant had MRI obtained at 4 Tesla. Cortical thickness measurements were obtained using Freesurfer. Primary neuroimaging outcome variables included cortical thickness measures for 15 cortical regions averaged across each hemisphere and the total volume of WML. To test our hypotheses, we first conducted ANOVAs comparing cognitive performance between the LLD and control groups. We then utilized correlation analyses to identify cortical regions for subsequent linear regression analyses predicting cognitive performance. The mean age of participants was 71.4 years old (SD=7.3) with a mean level of education of 15.7 years (SD=2.4). There was no statistical difference between age and education in LLD relative to controls. The mean score for depression severity (HDRS) was 24.1 (SD=3.8). LLD participants demonstrated poorer performance on the SDMT $F(1, 41)=7.78$, $p<.001$ and the HVLT $F(1,41)=15.13$, $p<.001$ relative to controls. Caudal middle frontal (CMF) cortical thickness was most strongly correlated with SDMT performance and parahippocampal cortical thickness was most strongly correlated with HVLT performance. Results of a linear regression including age, HDRS, CMF, and WML indicated that CMF was the strongest predictor of IPS ($F=4.65$; $p=<.01$). In contrast, neither depression severity, WML, or cortical thickness was associated with HVLT performance. Our results indicate IPS was more strongly associated with measures of cortical thickness in the frontal lobe than WML and depression severity. In contrast, performance on measures of memory was not predicted by brain structure or depression severity. These results suggest cortical thickness abnormalities may contribute to poor cognitive performance on some but not all cognitive tests.

NR7-08

COLOCATION OF A PSYCHIATRY RESIDENT IN A PEDIATRIC PRIMARY CARE CLINIC: A FEASIBILITY STUDY.

Lead Author: Meredith Weiss, M.D.
Co-Author(s): Miguelina German Ph.D, Rahil Briggs Psy.D.

SUMMARY:

Objective: To conduct a feasibility study of an elective that integrates psychiatry residents into a pediatric primary care (PC) clinic to function as mental health (MH) providers and to educate and familiarize them with the co-location model.
Background: There is a strong national push for co-location. Rationale for this includes: 1) Recognition that psychological factors underlie many medical complaints and that co-location may reduce the anxiety of physicians, who may worry about referrals, and patients who may not wish to go elsewhere for treatment due to inconvenience or stigma. 2) Economically, co-location reduces redundant infrastructure and administrative costs of segregated delivery systems and addresses consumer demand for simplified service delivery locations. MH specialty clinics are generally the main source of outpatient training during psychiatry residency. Considering current psychiatric training, psychiatrists may be inadequately prepared to practice and function as MH providers in a PC setting. A potential solution is the creation of an elective during residency that exposes the resident to co-location.
Methods: 1) Identification of a training site. 2) Identification and collaboration of hospital personnel in medical education and administration to develop educational goals and negotiate PC and psychiatry departmental needs for the elective. 3) Identification and enlistment of supervisors for therapy and medication management (MM) of trainee cases. 4) Calculation of number of new referrals for therapy and MM per year. 5) Determination of patient attendance rates per year. 6) Cost-benefit ratio analysis of number of supervisory hours versus number of billable visits generated per year. 7) Determination of satisfaction ratings among resident, staff and patients.
Results: Data collected support feasibility of the elective. The site identified is an academic pediatric PC clinic. Hospital personnel were identified and collaborated to develop the educational goals and negotiate the structure of the elective. The elective was organized as a 12 month, 8 hours per week elective for the PGY4 psychiatry resident. Supervisors identified and enlisted include a psychologist and a psychiatrist. Resident was recruited. Over a 5-month period, the resident received 7 referrals for MM and 3 for therapy. 85.7% of MM and 66% of therapy patients attended initial appointments. No-show rates for follow-up appointments and satisfaction rat-

ings of resident, staff and patients are being collected. Conclusions: It is possible to develop an elective that co-locates a psychiatry resident into a pediatric PC clinic. Education of the resident of co-location may further enable psychiatrists' capacities to participate in this model of care. As the 2012-2013 academic year will be the first trial, follow up studies examining the efficacy and sustainability of this elective are needed. If successful, it can serve as a model for co-located resident training.

NR7-09
ASSESSING WORKING MEMORY (WM) DEFICITS IN PATIENTS WITH BD I AND II: A FUNCTIONAL MAGNETIC RESONANCE IMAGING (FMRI) STUDY WITH N-BACK TASK

Lead Author: Beatrice Penzo, M.D.
Co-Author(s): Cremaschi Laura[1], Cristoffanini Marta[2], Palazzo Carlotta[1], Dobrea Cristina[1], Cinnante Claudia[2], Avignone Sabrina[2], Sillani Alessandro[2], Dell'Osso Bernardo[1], Triulzi Fabio Maria[2], Altamura A. Carlo[1]

[1] University of Milan; Fondazione IRRCS Ca'Granda, Ospedale Maggiore Policlinico, Department of Psychiatry, Milan, Italy

[2] University of Milan; Fondazione IRRCS Ca'Granda, Ospedale Maggiore Policlinico, Department of Neuroscience, Department of Neuroradiology, Milan, Italy

SUMMARY:
Introduction. Bipolar Disorder (BD) is a chronic mood disorder, associated with the highest risk of suicide among psychiatric disorders. Recent data seem to support the persistence of neurocognitive deficits after the resolution of acute episodes1 and Working Memory (WM) represents one of the most frequently impaired cognitive domain2. The present study was aimed to assess potential differences between euthymic bipolar patients and controls, undergoing a WM N-back task. A further comparison between type I and II patients was performed, to better elucidate the possible differences between these diagnostic sub-groups.
Methods. The sample was composed of 60 subjects, 30 euthymic bipolars (15 I, 15 II), matched with 30 controls. During a fMRI exam, they were administered a N-back task, composed of three conditions (0-, 2-, 3-back). Functional images were collected by a 3T MRI scanner and behavioural data were recorded as well. Differences between groups were assessed using SPSS and SPM5 softwares.
Results. As regards behavioral data, main effect of N-back task was statistically significant either for accuracy ($F=80,25$; $p<0.001$) and reaction times ($F=69,81$; $p<0.001$), suggesting that increasing cognitive load may be associated with decreasing accuracy and raising reaction times in both samples. Nonetheless, bipolar patients performed more poorly than controls, by means of accuracy in all N-back conditions ($F=6,28$; $p<0,02$). No difference was observed between the two subgroups with respect to overall performance. FMRI images documented a greater activation within dorsolateral prefrontal cortex and supramarginal gyrus in controls (2-,3-back). Second level analyses showed a significant hyperactivation in the rostral portion of anterior cingulated/medial orbitofrontal cortex and caudate nuclei in patients (2-,3-back). In relation to the comparison between BD I and II, one small region in the anterior cingulate cortex was found to be hyperactivated in BD I patients, while supramarginal gyrus in BD II (2-,3-back). Conclusions. Results seem to support the existence of different patterns of activation, suggesting a residual cognitive dysfunction in euthymic patients. These findings may be interpreted in light of the increased patients' effort in recruiting networks and/or the involvement of alternative neural circuits, as a compensatory effect. The limited size of BD I and II samples allow to draw only preliminary data, although further investigations may help in defining biological markers of those subgroups of patients.
1 Thermenos, H.W., Goldstein, J.M., Milanovic, S.M. et al., 2010. An f MRI study of working memory in persons with bipolar disorder or at genetic risk for bipolar disorder. Am J Med Genet B, Neuropsychiatr Genet 153, 120-131.
2 Lagopoulos, J., Ivanovski, B., Malhi, G.S., 2007. An event-related functional MRI study of working memory in euthymic bipolar disorder. J Psychiatry Neurosci 32, 174-84.

NR7-10
ASSESSMENT OF SUICIDE SCREENING SPECIFICITY BY THE ELECTRONIC ADMINISTRATION OF COLUMBIA SUICIDE SEVERITY RATING SCALE (C-SSRS) IN SELF-REPORT FORM

Lead Author: Murat Altinay, M.D.
Co-Author(s): ADELE VIGUERA, MD

SUMMARY:
Purpose: We propose an efficient two-step suicide screening process whereby all patients complete the PHQ-9 and only those with a positive item 9 response complete the C-SSRS.

Background: Cleveland Clinic's Neurological Institute has initiated systematic screening for depression using the nine-item Patient Health Questionnaire-9 (PHQ-9) as part of an electronic patient-reported outcomes collection initiative known as the Knowledge Program. Over a five year period, 15 percent of 135, 403 patients who completed the PHQ-9 across the Neurological Institute endorsed item 9 - that is, they reported suicidal thoughts. The high number of patients who endorsed PHQ-9 item 9 across our centers prompted us to evaluate the ability of PHQ-9 in adequately determining the suicide risk. The C-SSRS, a recently FDA endorsed scale for disease control and prevention was chosen for this purpose. We hypothesized that a patient-reported outcomes collection tool such as the C-SSRS would identify a significant number of false-positive screens from item 9 of the PHQ- 9 and be easily integrated into the clinical workflow.

Results: Between December 14, 2011 and April 4, 2012, 1,461 outpatients completed a baseline C-SSRS and the PHQ-9. The observed point prevalence of suicidal ideation and/or behavior was 24 percent based on responses to

PHQ-9 item 9, whereas it was only 6 percent based on the C-SSRS.

Conclusions: The results of our study suggest that the electronic administration of C-SSRS in self-Report markedly reduces the number of false-positive suicide screens compared with using item 9 alone.

Objectives:
1- The participant will be able to identify Depression suicidal behavior as significant and common comorbitities in patients with neurological disorders.
2- The participant will be able to describe strategies for adequately assessing the severity of suicidal behavior by the administration of self reported scales

NR7-11
ASSOCIATION BETWEEN FUNCTIONAL IMPAIRMENT, DEPRESSION AND EXTRAPYRAMIDAL SIGNS IN PATIENTS WITH ALZHEIMER'S DISEASE

Lead Author: Junbae Choi
Co-Author(s): Woojae Myung, MD
Jae Won Chung, MD
Doh Kwan Kim, MD, PhD

SUMMARY:

Abstract

Background – Extrapyramidal signs (EPSs) are commonly observed in patients with Alzheimer's disease (AD). Functional impairment and depression are of concern in patients with dementia. We investigated the associations between EPSs and functional impairment and depression in patients with AD.
Methods – A total 2,614 patients with AD who met the AD criteria of the National Institute of Neurological and Communicative Disorders and Stroke-Alzheimer's Disease and Related Disorders Association were included in this cross-sectional study. We estimated basic activities of daily living (ADL) and instrumental ADL by Barthel Index and Seoul-Instrumental Activities of Daily Living (S-IADL), respectively. Depressive mood was assessed using the 15-item Geriatric Depression Scale (GDepS), and the Korean version of the Mini-Mental State Examination was used to assess cognitive impairment. A neurological examination was performed in all subjects.
Results – The total proportion of patients with EPSs was 12.0%. The proportion of patient with impaired ADL was significantly higher in the EPS group than that in the non-EPS group (P = 2.82 × 10-7; odds ratio, 1.99, 95% confidence interval, 1.53–2.59). S-IADL scores were significantly higher in the EPS group than this in the non-EPS group (P = 3.95 × 10-10). The GDepS scores were higher in the EPS group than those in the non-EPS group (P = 0.03).
Conclusion – The presence of EPSs in patients with AD was associated with more impaired basic and instrumental ADL and depression. These results could be helpful to detect functional impairment and depression in patients with AD.

NR7-12
ASSOCIATION BETWEEN INSIGHT AND NEUROPSYCHIATRIC SYMPTOMS IN ALZHEIMER'S DEMENTIA: CLINICAL RESEARCH CENTER FOR DEMENTIA OF SOUTH KOREA STUDY

Lead Author: Hyeyeon Yoon
Co-Author(s): Woojae Myung,MD; Jihye Song,MD; Jun Bae Choi, MD;Doh Kwan Kim, MD, PhD1

SUMMARY:

Objectives: We aimed to identify the association between insight and neuropsychiatric symptoms in patients with Alzheimer's dementia (AD)
Methods: We examined 2607 patients with AD in CREDOS (Clinical Research Center for Dementia of South Korea) study and designed cross-sectional study. Each patient underwent psychiatrical, neurological and medical examination, interview for caregivers, laboratory tests, neuropsychological tests, and brain MRI. Cognitive function was measured using Ko¬rean version of Mini-Mental State Examination (K-MMSE), Global Deterioration Scale (GDS) and Clinical Dementia Rating (CDR). Behavioral and psychological symptoms were measured using Korean version Neuropsychiatric Inventory (K-NPI). Daily Living was measured using Barthel Index for daily living activities (Barthel-ADL) and Seoul-Instrumental Activities of Daily Living (S-IADL). Insight was classified into 'with insight', 'partial insight', and 'without insight' by caregivers' intervew.
Results:. Among the 2607 patients, 990 were 'With insight', 1191 were 'Partial insight', and 'Without insight' group with 426 patients. The 'Without insight' group had significantly higher aggression level than the 'With insight' group but not the 'partial insight' group. (OR = 1.46, 95% CI: 1,14?1.88). There was significantly lower prevalence of depression in the 'Partial insight' group and the 'Without insight' group compared to the 'With insight' group. (OR= 0.51, 95% CI: 0.43?0.61/OR = 0.61, 95% CI: 0.48?0.78). The 'Partial insight' group showed lower anxiety level than the 'With insight' group. (OR = 0.63, 95% CI: 0.53?0.75)
Conclusion: This study confirmed that low education was associated with depression in Alzheimer's dementia.

NR7-13
ASSOCIATION BETWEEN RISKY SEXUAL BEHAVIOR AND SUICIDALITY AMONG TEENS IN THE YOUTH RISK BEHAVIORAL SURVEY

Lead Author: William Kindrick, M.D.
Co-Author(s): Molly Gathright, MD, University of Arkansas for Medical Sciences
Josh Cisler, PhD, University of Arkansas for Medical Sciences
Erick Messias, MD, MPH, PhD, University of Arkansas for Medical Sciences

SUMMARY:

INTRODUCTION: Risky sexual behavior is a potentially traumatic and unfortunately prevalent problem involving teens in the United States. Suicide remains one of the leading causes

of mortality in this age group. In the past, several risk factors have been identified for depression and suicide in teens. These include substance abuse, academic difficulties, family history of depression, and death of a parent. We hypothesized that risky sexual behavior was also a significant risk factor for suicidality among teens.

METHODS: Data comes from self-reported information obtained in the 2011 Youth Risk Behavioral Survey (YRBS) and was used to determine the association between types of risky sexual behavior and suicidality. The YRBS is part of a surveillance system maintained by the Center for Disease Control and Prevention (CDC) to monitor youth behavior that influences health. The YRBS uses a three-stage cluster sample design to produce a nationally representative sample of 9th through 12th grade students (N = 15,212). Extensive information on the YRBS methodology is available at the CDC website. Potential confounders included were sex, age, and race. Adjusted odds ratios were estimated using logistic regression models. The exposures measured in this study include: onset of sexual intercourse prior to age 13, having 4 or more sexual partners, and being a self-reported victim of forced sexual intercourse within 12 months of the time of completing the YRBS.

RESULTS: In a nationally representative sample of U.S. high school students, 15 % reported having 4 partners or more, 8 % reported being forced to have intercourse, and 6 % reported starting to have sexual intercourse before the age of 13. Among all US high school students 28% reported 2 week sadness. That number increased among teens with onset of sexual activity before age 13 (36%), among those who reported 4 or more sexual partners (38%) and among victims of forced sexual intercourse (59%). In the same population, 8% reported a suicide attempt. That number increased in those who reported 4 or more sexual partners(15%), among those who reported onset of sexual activity before age 13(23 %), and among those who reported being victims of forced sexual intercourse(32%). All the associations remain statistically significant after controlling for confounders.

CONCLUSION: Teens that engage in risky sexual behavior should be considered for mental health screening in addition to medical screening, potentially providing a way to address depression and lower suicidality among teens.

NR7-14
ALCOHOL CONSUMPTION AND GENDER IN RURAL SAMOA

Lead Author: Shawn Barnes, M.D.

SUMMARY:

There are significant gender differences in alcohol consumption throughout the world. Here we report the results of an alcohol consumption survey on the rural island of Savaii, in the Pacific nation of Samoa. Eleven villages were selected for sampling using a randomized stratified cluster sampling methodology. A total of 1049 inhabitants over the age of 40 years (485 males and 564 females) were surveyed about alcohol consumption over the past year, and a 72.2% participation rate was achieved. A significant gender difference in alcohol consumption was found: 97.3% of women and 59.4% of men reported no alcohol consumption over the past year. This is one of the most significant gender differences in alcohol consumption in the world. No significant difference between genders was seen in those who consume only 1–5 alcoholic drinks per week (P = 0.8454). However, significantly more males than females consumed 6–25 drinks per week (P , 0.0001), 26–75 drinks per week (P , 0.0001), and 75+ drinks per week (P , 0.0001). This extreme gender difference in alcohol consumption is attributed to several factors, both general (alcoholic metabolism rates, risk-taking behaviors, general cultural taboos, etc) and specific to Samoa (church influence, financial disempowerment, and Samoan gender roles).

NR7-15
BDNF PLASMA LEVELS OF SCHIZOPHRENIA PATIENTS CLASSIFIED ACCORDING TO THEIR COGNITIVE FUNCTION IN COMPARISON TO HEALTHY SUBJECTS

Lead Author: Rodrigo Nieto, M.D.
Co-Author(s): Hernan Silva, Manuel Kukuljan, Cecilia Rojas, Alejandra Armijo, Ruben Nachar, Alfonso Gonzalez, Carmen Paz Castaneda, Cristian Montes, Cristian Aguirre, Daniel Castillo, Andrea Silva

SUMMARY:

Schizophrenia is characterized by positive, negative, cognitive and affective symptoms. Cognitive symptoms are important because they are significantly related to quality of life of patients and their ability to be reintegrated to society. Despite the relevance of cognitive symptoms of schizophrenia, the study of the biological basis of this deficit is still insufficient. Several studies have linked BDNF not only to the pathogenesis of schizophrenia, but also to neuronal plasticity, learning, and memory, making it a good candidate for a biomarker for cognition in schizophrenia.

In order to study the relationship between BDNF and cognitive functioning in schizophrenia, we measured BDNF plasma levels with ELISA in 20 subjects, 14 schizophrenia patients and 6 control group subjects, and we evaluated cognitive functioning with the Montreal Cognitive Assessment (MOCA), a good screening tool for cognitive deficit used in several clinical populations. We expected BDNF levels to be lower in schizophrenia patients, particularly in those with cognitive deficit.

We found significantly lower BDNF plasma levels in schizophrenia patients (2.1 ng/ml) in comparison to control subjects (3.2 ng/ml) (p = 0.03). We classified schizophrenia patients into two subgroups according to their performance in MOCA, and found that patients with a normal cognitive evaluation had significantly lower BDNF plasma levels (1.6 ng/ml) than control subjects (p = 0.02), but patients with cognitive deficit had no significant differences in BDNF levels (2.6 ng/ml) in comparison to controls (p = 0.27).

Consistent with prior reports, BDNF plasma levels were lower in schizophrenia patients than in healthy subjects. However, the finding of lower BDNF levels in the subgroup of patients with a normal cognitive evaluation, instead of as expected in the subgroup with cognitive deficit, has not been previously reported and may add new information on the role of BDNF in schizophrenia.

NR7-16
BIPOLAR I VERSUS BIPOLAR II: DISTINCT DISORDERS OR NOT?

Lead Author: Emily Yung,
Co-Author(s): Kraus, G., Cervantes, P., St. Laurent, M., & Low, N.C.

SUMMARY:
BACKGROUND: The DSM-IV distinguishes bipolar I (BPI) and bipolar II (BPII) by the experience of a manic or hypomanic episode, respectively. Some evidence suggests that BPI and BPII are distinct disorders due to different risk factors, treatment response, and prognosis. However, this literature is inconsistent. This study uses a large clinical sample to compare BPI and BPII on a range of medical, clinical, and familial correlates.

METHODS: Using a clinical sample from a university-based, tertiary-care mood disorders clinic, subjects with BPI (n = 178) and BPII (n = 53) were compared based on data extracted from their medical records, including comorbid medical conditions, psychiatric history, and family psychiatric history, using chi-square and ANOVA testing, and multiple regression analyses.

RESULTS: In terms of medical comorbidity, more migraine was reported in BPII (22.6%) than in BPI (10.5%) subjects (p-value = .035). With respect to psychiatric comorbidity, BPII subjects had more current generalized anxiety disorder (19.2% vs. 4.5%, p-value = .002) and current panic disorder (11.3% vs. 1.7%, p-value = .006) than in BPI subjects, but BPI subjects had more lifetime cannabis abuse/dependence (26.4% vs. 11.3%, p-value = .025) than BPII subjects. Regarding clinical measures, there were more psychiatric hospitalizations in BPI (mean = 4.01, SD = 3.03) compared to BPII (mean = 1.88, SD = 2.39) subjects (p-value < .001). Regarding familial risk, more BPII subjects (84.3%) had at least one first-degree relative with mental illness than BPI subjects (65.3%), (p-value = .009).

There was no statistically significant difference in the number of suicidal attempts between BPI and BPII subjects; however, in both BPI and BPII subjects, the number of lifetime psychiatric medications was correlated with the number of suicidal attempts [BPI, r = .35 (p-value < .001) and BPII, r = .36 (p-value = .008)].

CONCLUSION: In this study, BPII subjects experienced more migraine, generalized anxiety disorder, panic disorder, and family history of psychiatric illnesses compared to subjects with BPI. BPI subjects experienced more cannabis abuse/dependence. In BPI and BPII, there was a positive correlation between the number of lifetime psychiatric medications and number of suicidal attempts. Further efforts to identify differences and commonalties between medical, clinical, and familial factors of BPI and BPII can facilitate diagnostic assessment, measure, etiologic study, and prognosis.

NR7-17
BORDERLINE PERSONALITY DISORDER TRAITS AMONG PATIENTS WITH BIPOLAR DISORDER: STABLE OR STATE-DEPENDENT?

Lead Author: Marsal Sanches, M.D., Ph.D.
Co-Author(s): Teresa Pigott, M.D., Alan C. Swann, M.D., and Jair C. Soares, M.D.

SUMMARY:
Background: While traits associated with personality disorders are considered to be stable characteristics, several studies have recently questioned the longitudinal stability of the DSM-IV diagnostic criteria for BPD. Patients hospitalized for bipolar disorder potentially have substantial personality disorder characteristics as well. Differentiating roles of personality disorder and affective disorder characteristics is complicated by possible psychopathological overlap and lack of reliable historic data. We carried out a study in order to assess the consistence of borderline traits over time among patients admitted to a bipolar disorder inpatient unit. Methods: the Borderline Personality Questionnaire (BPQ) was administered to 174 bipolar inpatients at two different times: within 24 hours of their admission to the unit and on the day of discharge. The results were compared using paired "t" tests. Results: The mean duration of inpatient stay in our sample was 10.9 days. The scores of the BPQ at admission (mean + SD= 35.39 + 18.43) were significantly higher than at discharge (mean + SD= 31.56 + 19.83; t=3.038, d.f. 147, p<0.001). Conclusion: Our results show that, while borderline personality disorder characteristics improved significantly during a relatively short hospitalization for bipolar disorder, patients still had substantial BPQ scores at discharge. Therefore, borderline traits among patients with mood disorders may be partially related to, but partially independent of, mood state. Detailed relationships between borderline and affective characteristics, as well as delineation of stable vs state dependent borderline features, require further study. Clinicians should be cautious when diagnosing BPD in the inpatient setting.

NR7-18
BULLYING, CYBERBULLYING AND TEEN SUICIDALITY: RESULTS FROM THE 2011 YOUTH RISK BEHAVIOR SURVEY

Lead Author: Kristi Marie Kindrick, M.D.
Co-Author(s): Juan Castro, MD
Erick Messias, MD, MPH, PhD

SUMMARY:
Introduction: Bullying was introduced to Medical Subject Headings in 2011 and defined as "aggressive behavior

intended to cause harm or distress. The behavior may be physical or verbal." Cyberbullying occurs when digital media are used for bullying. Suicide in the adolescent population is a tragic and preventable cause of death, and sadly stands among the leading causes of death among teens. Recently, attention has been drawn to suicides precipitated by electronic harassment. Unfortunately, research looking at this relationship is in its infancy. Recent estimates point to 80% of American teens using social network sites. The teens' embracement of online social network has made electronic harassment an issue in their lives. There have been several studies linking cyberbullying to mental health problems, but not specifically addressing the extent to which it impacts suicidality (ideation, plans, attempts, and attempts requiring treatment). We hypothesized that subjects reporting being victims of school bullying, cyberbullying, or both, are at higher risk for depression and suicidality. Methods: We used the data available from the 2011 Youth Risk Behavior Surveys to study the relationship between school bullying and cyberbullying to depression and suicide. The YRBS consist of school-based, nationally representative, biannual samples (N=15,425). The methodology for the YRBS has been described and is available at the CDC website (http://www.cdc.gov/healthyyouth/yrbs). Given the overlap between school bullying and cyberbullying, we created a new variable combining these types of bullying, resulting in four categories: no bullying, school bullying only, cyberbullying only, and both forms of bullying. The outcome variables included four questions addressing the continuum of suicidality: ideation, plan, attempt, and being treated for suicide. These suicide items have been shown to have good convergent and discriminant validity. All analyses were conducted using Stata 11. Weight procedures were performed according to CDC guidelines. All proportions are reported along with 95% confidence intervals. Adjusted odds ratios (AOR) were calculated using logistic regressions. Results: There is a positive association of reports of depressive symptoms in victims of both types of bullying (AOR 5.4, 95% CI: (4.5-6.5)), as well as in those reporting being victim of only school bullying (2.4, (2.1-2.8)) or only cyberbullying (3.4, (2.8-4.1)). There is also a positive association of suicide attempts in victims of both types of bullying (5.6, (4.4-7)), as well as those reporting being victim of only school bullying (2.3, (1.8-2.9)) or only cyberbullying (3.5, (2.6-4.7)). Conclusion: Continued efforts to prevent bullying both in the school place as well as in cyberspace remain a priority in order to decrease risk of depression and suicide in adolescents.

NR7-19
CARDIAC REPOLARIZATION- RELATIONS TO EXECUTIVE COGNITIVE FUNCTIONING IN THE SWEDISH WORKING POPULATION

Lead Author: Cecilia Ulrika Dagsdotter Stenfors, M.A.
Co-Author(s): Cecilia Stenfors(1,2), Lars-Göran Nilsson(1), Töres Theorell(2,5), Inga Jonsdotter(4), Walter Osika(2).
1) Department of Psychology, Stockholm University
2) Stress Research Institute, Stockholm University
3) The Institute of Stress Medicine, Gothenburg
4) Department of Physiology, Sahlgrenska Academy, University of Gothenburg
5) Department of Physiology and Pharmacology, Karolinska Institute, Stockholm

SUMMARY:
Background:
Otherwise healthy persons in the work force may at times experience cognitive symptoms, such as difficulties in focusing attention, thinking clearly, in remembering adequately and in making decisions in their jobs and elsewhere.
We have previously shown that cognitive symptoms in the working population is related to lower ability in executive functions required in working memory tasks. However, it is not known whether this lower cognitive ability is linked to physiological stress/allostatic load.
As sympathetic activity is a key component in both dynamic and cumulative stress responses, the aim of the current study was to test the relation between measures of autonomic regulation of sympathetic activity- cardiac repolarization variability (QTVI)- and cognitive functioning, using cognitive tests that are sensitive to effects that are caused by stress.

Method:
233 (116 cases) male and female participants were drawn from the general gainfully employed Swedish population (from the Swedish Longitudinal Occupational Survey of Health) reporting either a high or a low level of cognitive symptoms. For all participants, ECG recordings and neuropsychological testing covering different cognitive domains, including executive functions, were performed.

Results:
In women, but not in men, cardiac repolarization variability was related to poorer ability in executive functions that are required in working-memory tasks while being unrelated to others, after controlling for demographical factors.

Conclusion:

Autonomic dysregulation of sympathetic activity may be both partly driven by- as well as negatively affect- poor executive cognitive ability. These factors may together drive the development of hypertension among women in the working population.

NR7-20
COGNITIVE BEHAVIOURAL THERAPY (CBT) VIA EMAIL IN GENERAL ANXIETY DISORDER

Lead Author: Nazanin Alavi, M.D.

SUMMARY:
Introduction: Generalized Anxiety Disorder (GAD) is characterized by excessive worrying, uneasiness and fear. Patients experience severe difficulty in controlling their worries and this significantly affects their functioning. Cognitive Behavioural Therapy (CBT) has been shown to yield clinical improvements in GAD that are superior to no treatment and nonspecific control conditions. However there are some barriers in deliver-

ing CBT treatment. These barriers include immigration to and living in another country where CBT in the same language is not available and the patient and the therapist have different cultural back-ground which effects the rapport necessary to start a therapeutic relationship. Long waiting lists, therapist shortage and lack of access to therapist in remote areas are another problems in receiving CBT. Therefore using alternative methods to overcome these barriers seems necessary. With internet use ever rising, we designed this research to investigate the efficacy of CBT through email in GAD.
Method: All people who volunteered to take part in the study were assessed by an online chat interview. 62 subjects met the DSM-IV criteria for GAD and were all asked to complete the Beck Anxiety Inventory (BAI). All the participants were Farsi-speaking and lived inside or outside Iran. 31 participants were randomly assigned to 12 email-based CBT sessions and rest of the participants were put in the control group. Participants had to leave the study in case they started receiving treatment through other resources. BAI scores were again measured after treatment and at a 6-month and 1 year follow-up.
Results: ANOVA was used to analyze the data.The BAI scores among these two groups were not significantly different before the treatment but significantly reduced in the group who received CBT both following 10-12 weeks of treatment and at 6-month and 1 year follow-ups. There was no significant changes in BAI score in the control group.
Conclusion: Our study showed that CBT by email is an alternative method of delivering CBT in GAD when in-person interaction is not possible due to barriers.

NR7-21
COMORBIDITY OF BIPOLAR DISORDER AND BORDERLINE PERSONALITY DISORDER: FINDINGS FROM THE NESARC

Lead Author: Joanna McDermid

SUMMARY:

OBJECTIVES: Clinical studies suggest a high frequency of co-morbid Borderline Personality Disorder (BPD) in subjects with Bipolar Disorder (BD). This has not been investigated in the general population.

METHODS: Data originated from Waves 1 in 2001/2 (N= 43,093, 81.0% rate of response) and 2 in 2004/5 (N= 34,653, 70.2% rate of response) of the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC). In person interviews were conducted using the Alcohol Use Disorders and Associated Disabilities Interview (AUDADIS-IV), a reliable diagnostic assessment tool of Diagnostic and Statistical Manual of Mental Disorders 4th Edition (DSM-IV) Axis I and II disorders. Subjects with BD I (N= 812), BD I/BPD (N= 360), BD II (N= 327) and BD II/BPD (N=101) were examined in terms of sociodemographics, DSM-IV mood symptoms, Axis I and II co-morbidities and history of childhood traumatic experiences.

RESULTS: Lifetime prevalence of BPD was 29.0% in BD I and 24.0% in BD II. Significant differences between the co-morbid BD/BPD subjects and BD/Non-BPD subjects were observed in terms of the number of depressive episodes, age of onset and severity of mood episodes, and history of childhood trauma. After controlling for demographics, BPD was strongly associated with incident BD I (adjusted odds ratio= 16.9; 95% CI: 13.88-20.55, p<0.001) and BD II (adjusted odds ratio= 9.5; 95% CI: 6.44-13.97, p<0.001).

CONCLUSIONS: BD with BPD is more severe, more highly co-morbid with additional Axis I and II disorders and has an earlier onset of illness than BD without BPD. The results of this study indicate that BPD is highly predictive of a future diagnosis of BD. Childhood traumatic experiences may have a role in understanding this complex relationship.

NR7-22
CONTEXT IS IMPORTANT: EMOTIONAL MALTREATMENT AND TRAITS RELATED TO DAMAGED SELF CONCEPT IN CHILDHOOD MEDIATE CLUSTER B PERSONALITY PATHOLOGY IN ADULTS

Lead Author: Olga Leibu, M.D.
Co-Author(s): Ethan Lu
Dilini Herath
Azra Qizilbash
Thachell Tanis.
Dr. Lisa Cohen PHD

SUMMARY:

Introduction: Despite a multitude of research demonstrating an association between child abuse and personality disorders, understanding of this relationship remains crude. To elucidate the mechanisms underlying this relationship, we asked whether self- related personality dimensions (Stable Self-Image, Self Reflexive Functioning, Self-Respect, Feeling Recognized) mediate the relationship between childhood trauma and cluster B pathology.
Methods: One hundred and thirteen patients were recruited from three inpatient units and the outpatient service in a large urban hospital. The following measures were used. The Childhood Trauma Questionnaire is a 28 item, self- report questionnaire measuring sexual, physical and emotional abuse as well as physical and emotional neglect. The SIPP-118 is a 118-item, self-report questionnaire that yields 16 personality facet scores grouped into 5 higher order domains: self-control, identity integration, relational capacities, social concordance, and responsibility. The Personality Diagnostic Questionnaire (PDQ-4+) is a 99-item, True/False questionnaire designed to assess for the ten DSM-IV-TR personality disorders plus two provisional personality disorders. The PDQ-4+ yields a total score as well as subscales for each of the DSM-IV axis II personality disorders. The following scales were used for analysis: borderline, antisocial, narcissistic. Stepwise hierarchical regression analyses and structural equation modeling (SEM) were performed to assess the direct and mediated effects of emotional abuse on all three cluster B disorders.
Results: In three separate regression analyses, emotional

abuse was significantly associated with each of three cluster B disorders, yielding betas of .363, .235, and .384 for antisocial, narcissistic, and borderline, respectively. When the four self-related personality traits were added to each of the models in the second step, the R2 change was significant for all three models. In other words, emotional abuse on its own was less strongly associated with each of the Cluster B disorders than when combined with the four self-related traits. By SEM, the aggregate of the four self-related personality traits had a statistically significant mediating effect (43, 49, and 75%, of the total effect) on the relationship between self-reported childhood emotional abuse and antisocial, borderline, and narcissistic traits, respectively.
Conclusion: The current study provides support for the hypothesis that a) there is an effect of childhood emotional abuse on Cluster B personality pathology in adulthood and b) this effect is mediated by personality traits related to a damaged self-concept. The mediating effect is strongest for narcissistic personality traits but also substantial for antisocial and borderline personality disorder traits.

NR7-23
COPING MODIFIES THE EFFECT OF STRESSFUL LIFE EVENTS ON DEPRESSION SYMPTOMS

Lead Author: Giselle E. Kraus, B.A.
Co-Author(s): Pablo Cervantes, MD, Marie Saint-Laurent, MD, Nancy C. Low, MD, MSc

SUMMARY:

Introduction: Previous research has shown that stressful life events are associated with precipitating mood episodes in the early course of mood disorders. However, later in the course of these disorders, it is unclear whether stressful events are related to more depression symptoms and a higher risk of relapse into a major depressive episode.

Objective: To test (1) if stressful life events are associated with depression symptoms in adults already diagnosed with a mood disorder and (2) whether negative coping styles and poor social support further increase this level of depression symptoms.

Method: The analytic sample includes 328 adult subjects from the Mood Disorders Program of the McGill University Health Centre. All subjects have been diagnosed with either Bipolar Disorder type I or II, Major Depressive Disorder, Cyclothymia, or Dysthymia. Measures consisted of one package of self-report questionnaires collected either before the patient's initial assessment at the program or during a follow-up appointment visit. A medical chart review was also completed by our research team. The exposure was 9 possible stressful life events in the previous 6 months (e.g., break-up of a relationship, losing a job, death of a family member). The outcome was depression symptoms in the previous 2 weeks, assessed with the Beck Depression Inventory (BDI-II). We tested for effect modification by social support (i.e., who they live with, number of close friends, and types of support from the Medical Outcomes Study) and by coping styles (i.e., avoidance, substance use, positive behaviors, problem solving).

Results: Preliminary linear regressions show that life events alone did not increase current depression levels. However, the use of positive coping (i.e. positive behaviors, problem solving) was associated with lower levels of depression symptoms. There was also an association between 5 of the 6 types of social support and depression, in that frequent social support is associated with lower levels of depression symptoms. Furthermore, coping by problem solving, avoidance, and positive behaviors modified the effect of stressful life events on depression symptoms.

Conclusions: Treatment and prevention programs done by healthcare professionals for mood disorder patients should emphasize the importance of positive coping styles and a positive social network to decrease the risk of relapse into depression, especially when patients are faced with stressful life events.

NR7-24
STRESSFUL LIFE EVENTS ARE ASSOCIATED WITH DEPRESSION IN A POPULATION-BASED SAMPLE OF YOUNG ADULTS

Lead Author: Giselle E. Kraus, B.A.
Co-Author(s): Jennifer O'Loughlin, PhD, CRC, FCAHS; Igor Karp, MD, MSc, PhD; Erika Dugas, MSc; Erin O'Loughlin, MA; Nancy C. Low, MD, MSc

SUMMARY:

Introduction: Results based on clinical samples demonstrate that stressful life events may precipitate depressive episodes in the early course of major depression. However, it is not known if there is an association between stressful life events and depressive symptoms in young adults among population-based settings. Although stressful life events are ubiquitous, only 10-20% of young adults develop depression. Therefore, stressful life events likely precipitate depressive episodes only in those with other risk factors, such as poor social support, poor coping skills, or sub-threshold mood symptoms during early adolescence.

Objective: To test if past-year stressful life events predict current depressive symptoms in a population-based cohort (the Nicotine Dependence in Teens (NDIT) Study).

Method: The analytic sample includes 823 adolescents from Montreal who completed self-report questionnaires 22 times between the ages of 12 and 24 years. Data from the 21st questionnaire cycle was analyzed for this study. The exposure was 17 possible past-year stressful life events (e.g., break-up of a relationship, losing a job, death of a family member) based on the List of Threatening Events. The outcome was depressive symptoms in the past 2 weeks, assessed with the Major Depression Inventory (MDI). We tested for effect modification by social support, ability to cope, anxiety disorder diagnosis, and depressive symptoms in early adolescence.

Results: Results indicated that a higher number of recent stressful life events in the past year predicted higher current

depressive symptoms. Also, the ability to cope with stressful daily events and early adolescent depressive symptoms each interacted with stressful life events to increase depressive symptoms. In the presence of poor coping with daily events or high depressive symptoms during early adolescence, the association between stressful life events and current depressive symptoms was stronger.

Conclusions: These findings highlight the importance of fostering positive coping skills when individuals are faced with stressful life events. Teachers, parents, and healthcare professionals should remain vigilant in recognizing the presence of depressive symptoms and stressful life events as a significant source of stress in adolescents.

NR7-25
CORRELATIONS BETWEEN REGIONAL BRAIN VOLUMES AND SEVERITY OF SYMPTOM DIMENSIONS IN SCHIZOPHRENIA, SCHIZOAFFECTIVE, AND PSYCHOTIC BIPOLAR I DISORDERS

Lead Author: Jaya Padmanabhan, M.D.
Co-Author(s): Neeraj Tandon, IT Mathew, ER Howard, AN Francis, Brett A. Clementz, Godfrey Pearlson, John A. Sweeney, Gunvant Thaker, Carol A. Tamminga, Matcheri S. Keshavan

SUMMARY:

Background:
Psychotic disorders, most notably schizophrenia, have been associated with structural brain alterations, which may underlie the psychopathology of these disorders. While multiple studies have reported associations between regional brain alterations and severity of symptom dimensions in psychosis, results have generally been limited by small sample sizes. In this analysis, we investigated correlations between regional brain volumes and symptom dimensions in a large sample (n = 423) of subjects with psychosis (schizophrenia, schizoaffective and psychotic bipolar I disorders).

Methods:
Subjects included 423 individuals with schizophrenia, schizoaffective disorder, or psychotic bipolar I disorder, enrolled in the Bipolar Schizophrenia Network on Intermediate Phenotypes (B-SNIP) study. Symptom dimensions were assessed using the Positive and Negative Syndrome Scale (PANSS), the Young Mania Rating Scale (YMRS), and the Montgomery-Asberg Depression Rating Scale (MADRS). Volumes of individual gray matter regions were extracted from structural magnetic resonance imaging using FreeSurfer software. Canonical correlations were applied to brain regions and were then followed by correlations with subregions within lobes. Analyses were performed for both absolute and relative volumes (i.e., regional volumes divided by intracranial volume). Data was also examined by diagnosis. Results were corrected for multiple comparisons.

Results:
PANSS positive subscale scores inversely correlated with absolute volume of left frontal subregions, left insula, left superior temporal volume, bilateral hippocampus, right fusiform region, and bilateral parietal subregions (p adjusted < 0.05). Relative volume of the right pallidum correlated directly with PANSS positive subscale scores (p adjusted < 0.005), but other relative volumes did not show correlations. There were no major correlations with the PANSS negative symptom subscale, YMRS, or MADRS. Correlations were generally not significant when data was examined by diagnosis.

Conclusion:
Positive symptom subscale scores in psychotic subjects correlated with reduced absolute gray matter volume in frontal, temporal and parietal regions, as well as with increased relative gray matter volume of the right pallidum. Negative symptom subscale scores, mania and depression ratings did not correlate with volumetric measures. These results indicate that absolute reductions in frontotemporal volumes and relative increases in volume of the right pallidum may be associated with positive symptom severity in psychosis. The pathophysiological significance of these observations and the relation to confounders such as medication status will need to be systematically investigated.

.

NR7-26
DELIRIUM IN ELDERLY PATIENTS WITH PNEUMONIA: SOCIODEMOGRAPHIC AND NOSOLOGICAL FEATURES AND RESPONSE TO TREATMENT

Lead Author: Antonio Leandro Nascimento, M.D., M.Sc.
Co-Author(s): Antonio Leandro Nascimento
Maria Luiza Bertino Guimarães
Marina Mochcovitch
Tathiana Pires Baczynski
Markus Salomão Miguel

SUMMARY:

Introduction: Pneumonia is a prevalent and potentially life-threatening disease in elderly patients. In this population, the clinical presentation of pneumonia can differ from that in younger patients. Older patients with pneumonia present fewer nonspecific symptoms (weakness, decreased appetite, urinary incontinence, falls, and delirium) than younger patients and delirium commonly occurs. Indeed, delirium may be the only manifestation of pneumonia in this group.

Objective: To evaluate sociodemographic and nosological features of delirium in elderly patients with pneumonia and their response to treatment.

Patients and Methods: The medical records of all the patients hospitalized for pneumonia at a 200-bed private general hospital and treated for delirium by the consultation liaison psychiatry team in a 6-month period were included in this study. Patients´sociodemographic (gender, age, and ethnicity), nosological (medical and psychiatric comorbidities) and treat-

ment response data were gathered and analyzed using descript statistical methods. Treatment outcome was evaluated using the clinical global impression-improvement scale. Admittance to consultation time and length of psychiatric treatment were also analyzed. Interventions were not blind, nor randomized, treatment options were chosen by the assistant psychiatrists according to their best clinical judgment.

Results: 25 patients met the inclusion criteria for this study (17 men and 8 women). All of them were Caucasian and their mean age was 81.76 ± 7.98 years. Patients presented a high number of comorbidities (2.95 ± 1.30 per patient). The most frequent comorbidities were hypertension (n=16), dementia (n=9), diabetes (n=8) and COPD (n=6), arrhythmias (n=6). Patients also presented panic disorder (n=1), anxiety disorders NOS (n=1) and substance abuse (n=1). All the patients presented hyperactive delirium and were treated using antipsychotics: haloperidol (n=5), quetiapine (n=11), Risperidone (n=1), olanzapine (n=2) or a combination of haloperidol and quetiapine (n=6). The majority of patients (16/25) improved (CGI-I= 1, 2 or 3) during the treatment with antipsychotics. Psychiatric consultation was sought 18.52 ± 34.25 days after the admittance of the patient. Psychiatric treatment for delirium required 8.12 ± 5.90 visits on average for each patient during 16.28 ± 17.78 days. Patients for whom psychiatric consultation was sought in the first week of hospitalization (n=14) required less psychiatric visits (6.35 ± 2.97 versus 10.39 ± 7.89) and a shorter period (14.50 ± 6.25 versus 59.73 ± 56.34) for the treatment of delirium than patients whose doctors took longer than a week to seek psychiatric consultation (n=11).

Conclusion: Delirium might be effectively treated in elderly patients using psychiatric consultations and antipsychotics. Psychiatric consultation should not be delayed as it may speed up delirium diagnosis and treatment.

NR7-27
DEMOGRAPHICS AND CLINICAL PROFILE OF PSYCHIATRIC FREQUENT FLYERS TO THE EMERGENCY DEPARTMENT IN TERTIARY CARE HOSPITAL SETTINGS

Lead Author: Varinderjit S. Parmar, M.D.
Co-Author(s): Ewa Talikowska-Szymczak, MD,
Peter Szymczak, MD,
Erin Meiklejohn,
Dianne Groll, PhD

SUMMARY:

INTRODUCTION

Among researchers worldwide there has been an increasing interest focusing on a group of individuals who contribute a disproportionate number of visits to the Emergency Department for psychiatric reasons. Frequent users of the ED services are proven to be a diverse group of patients that provide a challenge to emergency physicians. These “frequent flyers” have been shown to have more psychiatric, psychosocial, and substance abuse issues than the general population and tend to be complex to manage.

PURPOSE

This study aims to find out frequent users’ demographics, most common presenting diagnosis and emergency services utilization patterns in tertiary care centers.
Data obtained from this study may permit for early identification of that patient population and more efficient utilization of PES resources.

METHOD

Data for emergency psychiatric visits at 2 tertiary care hospitals were obtained for a 5-year period from April 2006 to March 2011. The data detailed visits to the ED including: dates, times, gender, marital status, age, and primary diagnosis.
Primary Diagnosis was also sorted into eleven diagnostic clusters. Frequent flyers were defined as individuals who attended the hospital 5 or more times during the 5 years of the data sample. The data was coded separately for these individuals to include the number of visits to the ER over 5 years, their average age, and their most common diagnosis given at ER visits. A descriptive analysis was performed to assess the characteristics of ‘frequent flyers’ and the nature of their hospital visits.

RESULTS

Frequent flyers represented 2.18% of 6919 total attendees to the two Kingston emergency departments. Visits by frequent flyers, made up 15.76%. Frequent flyers were found to be 68.9% male and 31.1% female, with an average age of 40.55. The average number of visits made by a frequent flyer was 10.37 visits over 5 years, Approximately 11% of frequent flyers attended the hospital 20 or more times. Substance use was found to be the most common primary diagnosis (58.3%), anxiety disorders (15.2%) and schizophrenia and psychotic disorders begin the (13.2%); mood disorders, adjustment disorders, somatoform and dissociative disorders, personality disorders and childhood disorders accounted for the remaining 13.2% of primary diagnoses.

CONCLUSION

Frequent flyers were much more likely to present with a diagnosis of substance use and of schizophrenia and psychotic disorders and much less likely to have anxiety or mood disorders. Frequent flyers generally came into the emergency room with more than one type of diagnosis

Frequent flyers’ visits had much higher instances of arriving in an ambulance, slightly higher chances of being brought in by the police, and a significantly lower chance of being a walk-in visits.

Frequent flyers were more likely to have the classification of urgent (triage code status) than the non-frequent flyer group.

NR7-28
DEPRESSION, DIABETES, AND VISUAL IMPAIRMENT IN ELDERLY AFRICAN-AMERICAN PATIENTS

Lead Author: Aashna Mago
Co-Author(s): Robin Casten, Ph.D.
Barry W. Rovner, M.D.

SUMMARY:
Background
African American (AA) patients with diabetes have higher hemoglobin A1C (HGBA1C) levels than white patients. In AA patients, depressive symptoms are associated with higher HGBA1C and more long-term diabetes complications, including diabetic retinopathy. However, it is unclear whether deficiencies in diabetes self-care account for these associations. Visual impairment in older patients with diabetes may also be associated with depression. To better understand these associations we examined the relationships between depression, hyperglycemia, diabetes self care, and visual functioning in older African American patients with diabetes.

Methods
As part of a study that is testing the efficacy of a behavioral intervention to increase rates of dilated fundus exams, we interviewed AA patients aged 65 and older who had type 2 diabetes for > 1 year. We assessed glycemic control by hemoglobin A1C (HGBA1C) levels, depressive symptoms with the Patient Health Questionnaire (PHQ), frequency of diabetes self- management behaviors with the Diabetes Self-Care Inventory-Revised, and vision function with the National Eye Institute Visual Function Questionnaire (NEI-VFQ).

Results
Baseline data on 140 patients are presented: the mean age was 72.8 (SD = 6.3) years and 66.4% were female. Using a PHQ-9 cut score of 10, 19.7% of the patients had significant depressive symptoms. Only 7.5% of patients overall (23.5% of those classified as depressed) were currently on an antidepressant; PHQ scores were higher in patients on an antidepressant: mean (SD) 9.9 (6.1) vs. 4.8 (4.3) (P=0.002)

74.4% of patients had elevated HGBA1C levels (6.5% or greater). There was a trend for patients with depression to have higher HGBA1C levels: mean (SD) 8.1 (2.3) vs 7.4 (1.4) (P=0.068). There were no significant differences in the frequency of self-reported diabetes self-management behaviors between depressed and not depressed patients, except for reading food labels which was associated with being depressed (56.4% vs 29.6%; P=0.018) but, surprisingly, depression was not related to visual function for near activities- mean (SD) 76.0 (23.9) vs 75.3 (23.1) (P=0.859).

On the Visual Function Questionnaire, depressed patients had significantly lower functioning on subscale scores for Near activities, Distance activities, Mental health, Role difficulties, Dependency, and Driving

Conclusions
In this older AA sample, there was no association between depression and self-care behaviors (except for reading food labels), although there was a marginal relationship between depression and glycemic control. A significant association between depression and impairment on various aspects of visual functioning was found. These relationships should be further explored to determine the extent to which depression treatment could improve glycemic control and visual functioning in this population.

NR7-29
DOES RACE/ETHNICITY PLAY A ROLE IN THE PRESENTATION OF SUBSTANCE ABUSERS TO PSYCHIATRIC EMERGENCY SERVICES?

Lead Author: Steven Andrew Allen, M.D.
Co-Author(s): Benjamin K Woo, M.D.

SUMMARY:
SUMMARY:
Introduction: Substance abuse is a pattern of maladaptive behavior that culminates in various adverse outcomes. Currently, the prevalence of substance abuse is soaring nationwide requiring that psychiatric emergency physicians be well versed in the diagnosis and treatment of substance abuse. Previous literature has clearly identified poorer patient outcomes in substance abusers with psychiatric comorbidities. However, despite growing ethnic diversity, a paucity of research exists on how ethnicity/race influences substance abusers seeking psychiatric emergency services (PES). The significance of this research scarcity becomes more apparent when evaluating U.S. Census publications which attribute 55% of the population growth (from 2000-2010) to Latinos. This research evaluated the differences among Caucasian and Latino substance abusers utilizing PES.
Methods: We conducted a retrospective study which utilized a PES database from a California county of 780,000 inhabitants. Over a ten month period, 2080 PES evaluations were examined and there were 163 evaluations with a primary discharge diagnosis of substance abuse/dependence. These evaluations were then dichotomized into Caucasian and Latino subgroups, as other ethnic groups were too small to ensure a statistical meaningful analysis. T-test and Chi-square analysis were used for continuous and categorical data, respectively.
Results: The sample consisted of 69.4% (100) Caucasians and 30.6% (44) Latinos with respective mean ages ± SD of 40.3 ± 13.2 and 32.9 ± 10.5 (t=3.27, df= 142, p= .001). Comparing Caucasian and Latino subgroups, respectively, there were 55% (55) versus 77% (34) males ($?^2$=6.42, df= 1, p=.011); 16% (16) versus 14% (6) were married ($?^2$= 0.13, df= 1, p= .717); 56% (56) versus 73% (32) were without insurance ($?^2$= 3.60, df= 1, p= .058). Furthermore, 77% (77) versus 77% (34) were admitted to PES on an involuntary hold ($?^2$=.0013, df=1, p=.971); 57% (57) versus 57% (25) had their hold initiated because they were identified as a danger to self ($?^2$=.0004, df=1, p=.984); 18% (18) versus 30% (13) were identified as a danger to others ($?^2$=2.41, df=1, p=.121). Lastly, there were no differences for PES disposition ($?^2$=2.34, df=1, p=.126).

Conclusion: This study indicates that Latinos diagnosed with substance abuse disorders in the psychiatric emergency setting were significantly younger and more frequently male. The study also suggests that insurance status is likely to play a role. Yet, little is known about how these discrepancies are affecting clinical outcomes and future research should be done to improve the quality of PES care.

NR7-30
EATING ATTITUDES AMONG COLLEGE STUDENTS IN BOMBAY: A STUDY OF 3,300 STUDENTS

Lead Author: Salima K. Jiwani, M.B.B.S.
Co-Author(s): Shamsah B. Sonawalla, M.D.
Meghana Srinivasan, M.A.
Tanvi Ajmera, B.A.
Maitreyi Nigwekar, M.A.
Maherra Khambaty, B.A.
Priya Shah, B.A.
Rajesh M. Parikh, M.D.

SUMMARY:

Objective:
Previous studies suggest a high prevalence of abnormal eating attitudes and behaviors
among college students, with gender and ethnic differences (1, 2). The purpose of this study was to assess eating attitudes among college students in Bombay.
Method:
3300 students across two colleges in the Greater Bombay area were screened for eating attitudes and depressive symptoms (mean age: 19.2 + 1.1; 66.8 % women; 33.2% men, Arts: 45%, Science: 30.3%, Commerce: 15.6%, Management Studies: 9.1%). After obtaining a written, informed consent, the EAT – 26 (Eating Attitudes Test – 26) and 21-item Beck Depression Inventory (BDI) were completed by all students. A score of > 20 on the EAT-26 was considered significant for the prevalence of eating disturbances, and a score of > 16 on the BDI was considered significant for depressive symptoms. Students who scored > 16 on the BDI and/or greater than or equal to 1 on BDI-item-9 (suicidal ideation) and consented to be contacted were interviewed using the MDD module of the Structured Clinical Interview for DSM-IV-TR (SCID-P). Chi square tests, Pearson correlation co-efficient and logistic regression were used for data analysis.
Results:
13.3% of the students scored > 20 on EAT – 26. Significantly more women scored > 20 on the EAT-26 compared to men (14.1% female, 11.7% male; chi square = 3.71, P<0.05). Total scores on the EAT – 26 did not have a significant relationship with age, year in college, or stream of study. 33.7% of students with EAT-26 scores > 20 had significant depressive symptoms and 14.5% students with EAT – 26 scores < 20 had significant depressive symptoms (Chi square= 98.85, p<0.0001). There was a positive correlation between EAT – 26 total scores and BDI total scores (r= 0.318, P<0.001). EAT – 26 factors of "dieting" (r=0.250, P<0.001), "bulimia" (r=0.262, P< 0.01) and "oral control" (r=0.243, P<0.001) also showed a positive correlation with total BDI scores. There was a significant relationship between EAT – 26 total scores and suicidal ideation (BDI item 9 > 1). 10% of BDI total scores could be related to EAT – 26 total scores on logistic regression (R2 = 0.101, P < 0.001).
Conclusion:
Significant eating disturbances are prevalent in this population of urban college students in Bombay. Women have a higher prevalence of eating disturbances compared to men. A third of students with eating disturbances also have significant depressive symptoms. Our findings suggest a need for appropriate interventions in this population.

References:
1) Balhara, Y. P., Mathur, S. and Kataria, D. K. (2012). Body shape and eating attitudes among female nursing students in India. Eastern Asian Archives of Psychiatry. 22 (2), pp – 70 – 74.
2) Arriaza, C. A. and Mann, T. (2001). Ethnic differences in eating disorder symptoms among college students: the confounding role of body mass index. Journal of American College Health. 49 (6), pp – 309 – 315.

NR7-31
EEG SOURCE CONNECTIVITY CHANGES IN EMDR THERAPY

Lead Author: Giorgio Di Lorenzo
Co-Author(s): M. Pagani, Institute of Cognitive Sciences and Technologies, CNR.
L. Monaco, Department of Systems Medicine, University of Rome "Tor Vergata".
A.R. Verardo, EMDR Italy Association.
A. Daverio, Department of Systems Medicine, University of Rome "Tor Vergata".
I. Giannoudas, Department of Systems Medicine, University of Rome "Tor Vergata".
P. La Porta, EMDR Italy Association.
C. Niolu, Department of Systems Medicine, University of Rome "Tor Vergata".
I. Fernandez, EMDR Italy Association.
A. Siracusano, Department of Systems Medicine, University of Rome "Tor Vergata".

SUMMARY:

Background: Changes in brain connectivity have been recently demonstrated in traumatized subjects treated with the Eye Movement Desensitization and Reprocessing (EMDR). The aim of this study was to implement Principal Component Analysis (PCA) to investigate electroencephalographic (EEG) source connectivity during bilateral ocular stimulation (BS) before and after EMDR therapy.
Methods: A 37 channels EEG was used to record neuronal activation during whole EMDR sessions. Twenty-eight victims of psychological traumas were recorded at the first EMDR session (T0) and at the last one performed after processing the index trauma (T1). Electrical source images were analyzed for each EEG band by eLORETA. Source current density values of 6239 voxels, for each band of both sessions, were

reduced to 28 ROIs and standardized before performing PCA (extracted factor minimum Eigenvalue = 1; factor rotation = Varimax).
Results: In all bands the performed PCA resulted in four to six Factors explaining a large proportion of the total variance, between 86% for delta band to 93% for alpha band. Relevant decreased connectivity, especially between limbic structures, was found in T1 as compared to T0 in delta, theta and gamma bands. As for delta band the first Factor including at T0 several limbic structures as bilateral anterior (ACC) and posterior (PCC) cingulated cortex, parahippocampal gyri (PHG), right insula (INS-R) and orbitofrontal cortex (OFC-R) explaining the 43% of the variance was reduced at T1 to bilateral PCC and PHG explaining only the 28% of the variance. The same was found for theta band in which Factor 1 containing the most of the anterior limbic structures (bilateral INS and ACC, right PHG and right anterior, AFC, and lateral, LFC, frontal cortex) and explaining the 45% of the variance broke up at T1 reducing considerably the explained variance. As for gamma band as well the two Factors including the most of the limbic areas (bilateral ACC, PCC, PHG, OFC and AFC) and explaining a combined variance of 50% were disrupted at T1.
Conclusions: These findings suggest that EMDR efficacy in psychologically traumatized subjects is associated to electrical brain connectivity changes during BS. In particular, after positive clinical outcomes electric activity is reduced in areas involved in the cortical hyperactivation state of trauma related disorder. Our results suggest that successful EMDR and hence processing of the traumatic event is related to decreased functional connections between intra-limbic and cortico-limbic regions involved in the emotional elaboration of the index trauma. PCA is useful to explore functional brain connectivity and enables to assess functional networks activated during BS of EMDR therapy.

NR7-32
EFFECTIVENESS OF CHRONOTHERAPY ON DEPRESSED PATIENTS WITH SUICIDAL IDEATION IN AN INPATIENT SETTING: A NON-CONSECUTIVE CASE SERIES

Lead Author: Walter Shuham, M.D.
Co-Author(s): Elizabeth Stevens, DO
Marlon Quinones, MD

SUMMARY:

Background:
Depression and anxiety account for a majority of psychiatric inpatient admissions. While pharmacotherapy is often the gold standard treatment, onset of action is weeks to months for most SSRIs and acute inpatient improvement can be attributed to other behavioral, psychological and social interventions. Although chronotherapy has only recently garnered attention in the United States, it has been studied since the 1960s and has been shown to improve depressive symptoms in up to 60% of patients within hours. In this case series, we examined the effectiveness of triple chronotherapy on depressed patients with and without suicidal ideation as an adjunct to pharmacotherapy including: SSRIs, mood stabilizers and atypical antipsychotics.

Method:
Three non-consecutive inpatients were selected for adjunctive triple chronotherapy including: wake therapy, light therapy and sleep phase advance. Wake therapy consists of sleep deprivation, light therapy was administered via exposure to daylight through a window and sleep phase advance was initiated in the hospital but completed on an outpatient basis. The patients were each affected by a major depressive episode but had differing diagnosis and pharmacotherapy treatments. Triple chronotherapy ranged from 1-3 days and was monitored using Young Mania Rating Scale (YMRS), Hamilton Rating Scale for Depression (HAM-D) and Patient Current Suicide Risk Score (PCSRS).

Result:
Significant responses were noted in all three patients evidenced by either improvement in mood or resolution of suicidal ideation. HAM-D and PCSRS were used for objective ratings while pt. subjective reports were also taken into account. Improvement was noted regardless of pharmacotherapy, including atypical antidepressants, which are thought to negate the dopaminergic effects of wake therapy.

Limitations:
The study was a case series and thus lacks power. Additionally, subjects were exposed to a variety of confounders including: different drug treatments, variable diagnoses and varying lengths of chronotherapy.

Conclusion:
The case series suggests that triple chronotherapy is an implementable, adjunctive treatment modality for patients with depression and suicidal ideation regardless of drug regimen. Further investigation is warranted given the indicated effectiveness of chronotherapeutics on not only depressive symptoms and suicidal ideation, but with regard to time and cost as well.

NR7-33
ELECTRICAL THRESHOLD FOR SEIZURES DURING BILATERAL ELECTROCONVULSIVE THERAPY : THE EFFECTS OF AGE AND ANTICONVULSANT MEDICATIONS

Lead Author: Abhishek R. Nitturkar, M.B.B.S.
Co-Author(s): Jagadisha Thirthalli
Shashidhara N Harihara
Virupakshappa I Bagewadi
Shubhangi S Mathpati
Divyasree S
Naveen Kumar C
Bangalore N Gangadhar

SUMMARY:

Background: The efficacy and adverse effects of electroconvulsive therapy (ECT) depends on the amount by which the electrical dose exceeds individual patients' seizure threshold. Titration method is arguably the commonest method of as-

sessing seizure threshold. Formula-based methods use age as the most important predictor of seizure threshold. The effect of anticonvulsants (AC) in determining the seizure threshold has been sparsely studied

Method: ECT records of 521 patients who received bilateral ECT (BLECT) in one calendar year in National Institute of Mental Health and Neurosciences (NIMHANS) were studied. Their demographic, clinical and ECT details were recorded. At NIMHANS, during the first ECT session, seizure threshold is determined by titration method, starting with 30 milli-Coulombs (mC) and increasing in steps of 60mC till generalized seizure is induced. We compared the percentage of patients above and below 40 years of age with different seizure thresholds.

Results: Among those <40 years of age, 330 of 427 (77%) had seizure threshold >120mC; nearly all (90 of 94; 96%) of those over 40 years of age had the threshold >120mC (OR=9; 95% CI=2.127 – 38.1). The figures were similar irrespective whether they were on AC or BZPs or both.

Conclusions: While using titration method of determining seizure threshold with BLECT for those above 40 years of age, one may start at 120mC. This would avoid repeated stimulations at lower doses and chances of failure to elicit seizures during the first session of BLECT. The risk of using higher stimulus dose is about 4% with this approach.

NR7-34
ELECTROCONVULSIVE THERAPY USE IN ADOLESCENTS AT MAYO CLINIC: A 20-YEAR PRACTICE AND OUTCOMES REVIEW

Lead Author: Chad Puffer, D.O.
Co-Author(s): Christopher Wall, MD
Mark Frye, MD

SUMMARY:

Background: Electroconvulsive therapy (ECT) remains a useful, yet infrequently employed treatment option in youth experiencing severe emotional illnesses. At Mayo Clinic, approximately 50 adolescents have been treated with ECT for a range of psychiatric illnesses over a 20-year span.
Methods: This study reports a comprehensive practice and outcomes review of adolescents treated at Mayo Clinic with ECT. Treatment parameters including electrode localization, stimulus dosing, seizure duration and associated treatment complications are reported. Long-term follow-up clinical information regarding post-treatment outcomes as adults are also reported.
Conclusion: ECT use is a viable and appropriate treatment approach in youth experiencing severe, clinically debilitating illnesses that have been recalcitrant to other treatment options. Treatment parameters largely mirror the adult ECT practice, with some notable and important exceptions related to tolerability, seizure duration and variability of clinical outcomes.

NR7-35
EXPERIENCE OF HOSPITALIZATION IN PEOPLE WITH MENTAL DISORDERS: AN INTERNATIONAL STUDY (THE IDEA PROJECT)

Lead Author: Alexander Nawka, M.D.
Co-Author(s): Estelle Malcolm, Graham Thornicroft, Norman Sartorius, Francesca Lassman, Diane Rose, Nisha Mehta, Nikita Bezborodov, on behalf of the IDEA study group

SUMMARY:

Background
The evaluation of mental health services relies heavily on data recorded in the health service system and on information received from health care personnel. The IDEA project explores ways of ensuring that patients' views and suggestions concerning care become known and are used in the improvement of mental health care. The main aim of the study was to explore the experience of people who have been treated as inpatients in a mental health setting across 9 lower and middle income countries in Europe and Africa.

Methods
Semi-structured in-depth interviews were conducted with 30 patients per institution, usually on the day of discharge. The domains covered included; a) benefit of hospital stay b) satisfaction with the staff; c) harm experienced d) preferences taken into account e) right to confidentiality observed f) main improvements that should be made to this service. Both qualitative (identification of core themes in all domains) and quantitative (visual analogue scale, scores from 0 to 10) approaches were performed to record the responses.

Results
Patients rated their overall satisfaction with hospital stay (8,0±2,3), satisfaction with the staff (8,5±1,8), confidentiality (8,6±2,1) and their individual preferences and rights being taken into account (8,0±2,4) very high (higher scores indicate higher satisfaction). Patients did report low level of harm experienced during their stay in psychiatric institution (1,7±2,7) (lower scores indicate lower level of harm experienced).

Conclusion
Overall patients are showing a relatively high satisfaction in respect to their safety, dignity and confidentiality. Patients also reported very high satisfaction with the staff and mostly viewed their hospital stay as very beneficial. However extreme scores (0 and 10) have been recorded for all the followed domains and therefore there are patients who reported being very dissatisfied with the way they have been treated while in hospital.

NR7-36
FACTORS ASSOCIATED WITH CAREGIVER BURDEN IN PATIENTS WITH ALZHEIMER'S DISEASE

Lead Author: Youngdon Kim

SUMMARY:

Objective: Caregivers for patients with Alzheimer's disease (AD) frequently suffer from psychological and financial bur-

dens. However, the results of the relationship between burden and cognitive function, performance of activities of daily living, and depressive symptoms have remained inconsistent.

Method: A cross-sectional study was conducted in a sample comprised of 1,164 pairs of patients with AD and caregivers from the Clinical Research of Dementia of South Korea study cohorts. The cognitive function of each sub-domain, brain ischemic changes, functional impairments, depressive symptoms, abnormal neurological signs, and underlying medical history were assessed in patients. Caregiver burden was evaluated using the Neuropsychiatric Inventory Caregiver Distress Scale.

Results: We found that higher severity and more functional impairment were significantly associated with higher caregiver burden. However, no cognitive sub-domain showed a significant association with caregiver burden. In addition, our results showed that depressive symptoms of patients and underlying renal disease were associated with higher caregiver burden.

Conclusions: The results indicate that caregiver burden had a stronger association with functional impairment than cognitive functioning. Therefore, interventions to help maintain activities of daily living in patients with AD, not only pharmacologic treatments for cognitive function, may alleviate caregiver burden and improve caregiver well-being.

NR7-37
FAMILIAL FORMS OF BIPOLAR I VERSUS BIPOLAR II: MEDICAL AND CLINICAL CORRELATES

Lead Author: Emily Yung,
Co-Author(s): Kraus, G. E, Cervantes, P., Saint-Laurent, M., Low, N.C.

SUMMARY:

BACKGROUND: The DSM-IV distinguishes bipolar I (BPI) and bipolar II (BPII) by the experience of a manic or hypomanic episode, respectively. Some evidence suggests that BPI and BPII are distinct disorders due to differences in familial factors between the two disorders. However, this literature is inconsistent and underdeveloped. This study uses a large clinical sample to examine the medical and clinical correlates of the familial forms of bipolar I (BPI) versus bipolar II (BPII). Correlates were compared in bipolar subjects with psychiatric illness in their first-degree relatives (FDR), maternal relatives (MR) and paternal relatives (PR).

METHODS: Using a clinical sample from a university-based, tertiary-care mood disorders clinic, subjects with BPI (n = 178) and BPII (n = 53) were compared based on the presence of family psychiatric illness in first-degree, maternal, and paternal relatives. Chi-square and ANOVA test analyses were used to compare the data extracted from medical records, including medical history, psychiatric history, and family psychiatric history.

RESULTS:
Of the 231 bipolar subjects, 79.22% had reports of having a family history of mental illness.

In BPI subjects with FDR with psychiatric illness compared to those without had more reports of diabetes II (13.1% vs. 1.8%, p-value = .021). BPI subjects with MR with psychiatric illness compared to those without had their first psychiatric hospitalization at a younger age (26.05 years, SD = 9.41 vs. 31.77 years, SD = 11.07, p-value = .002). Similarly, in BPI subjects with PR with psychiatric illness, the age of first psychiatric hospitalization was also younger (26.76 years, SD = 9.56 vs. 30.70 years, SD = 11.30, p-value = .043) compared to those without PR with psychiatric illness.

In BPII subjects, only those with affected maternal relatives had a younger age of first psychiatric hospitalization (26.64 years, SD = 7.54 vs. 45.00 years, SD = 15.14, p-value = .001). Additionally, BPII subjects with affected maternal relatives were on more psychiatric medications (3.00, SD = 1.68 vs. 1.80, SD = 1.08, p-value = .019).

CONCLUSION: The familial forms of BPI and BPII examined by first-degree relatives, maternal relatives, and paternal relatives separately have some commonalities and differences. Younger age of hospitalization is more common in those with affected maternal and paternal relatives, but differently for BPI vs. BPII. Medical comorbidity was associated with the familial forms of BPI, but not BPII. Further investigation of familial psychiatric history can provide better understanding of the potential genetic etiology of mood disorders.

NR7-38
FEASIBILITY OF CENTRAL MEDITATION AND IMAGERY THERAPY FOR DEMENTIA CAREGIVERS

Lead Author: Felipe A. Jain, M.D.
Co-Author(s): Nora Nazarian, B.A.
Helen Lavretsky, M.D.

SUMMARY:

Background: Although family dementia caregivers provide a valuable and needed contribution to their relatives with dementia, caregiving may result in detriment to their own health and psychological well-being. Previous studies have suggested that meditation, mindfulness and yoga interventions may improve psychological well-being in caregivers. Central Meditation and Imagery Therapy for Caregivers (CMIT-C) is a novel 8-week group meditation and guided imagery program based on principles of mindfulness, yoga, and imagery rehearsal, specifically designed to help meet the needs of dementia caregivers.

Methods: 6 dementia caregivers who reported elevated levels of stress due to caregiving responsibilities were enrolled in CMIT-C. Measures included Center for Epidemiology Scale – Depression (CES-D), Short-Form 36 (SF-36), Zung Anxiety Scale (ZAS), Quality of Life Enjoyment and Satisfaction Questionnaire – Short Form (Q-LESQ-SF), Caregiver Burden Scale. Changes from baseline to post-meditation training were analyzed with Wilcoxon's signed-rank test, and effect sizes (Cohen's d) were calculated.

Results: All 6 participants completed the study. Participants came to an average of 6 ± 2 sessions, and turned in weekly homework logs 89% of the time. They practiced on average 5 ± 1 days out of the week, and spent approximately 21 ± 5 minutes per session. Mood improved pre to post meditation sessions an average of 3 ± 2 points on a 10-point Likert scale ($p < 0.03$). Anxiety as measured by the ZAS decreased from 39 ± 8 to 33 ± 6 ($p < 0.04$, Cohen's $d = 0.8$). There were several promising trends. Depression symptoms tended to decrease on the CES-D, from 20 ± 14 to 14 ± 12, ($p = 0.06$, Cohen's $d = 0.5$). Physical function (SF-36 subscale) tended to increase, from 81 ± 15% to 95 ± 4% ($p = 0.06$, Cohen's $d = 1.4$), as did overall quality of life on Q-LESQ-SF (65 ± 14% to 69 ± 14%, $p = 0.09$, Cohen's $d = 0.26$). There were no effects on caregiver burden.

Conclusions: CMIT-C is a feasible intervention for dementia caregivers. Early results are promising to help reduce symptoms of anxiety and depression, and improve physical function and overall quality of life. Larger, controlled efficacy studies of CMIT-C for dementia caregivers appear warranted.

NR7-39
GENETIC EFFECTS ON DRUG DISPOSITION AND ANTIPSYCHOTIC-INDUCED WEIGHT GAIN IN CHILDREN WITH AUTISM SPECTRUM DISORDER

Lead Author: Susan N. Chang
Co-Author(s): Erika L. Nurmi, Christopher P. Laughlin, James T. McCracken, and the RUPP Autism Network

SUMMARY:

Background: The atypical antipsychotic risperidone is an effective treatment for severe irritability and aggression in children with autism. Antipsychotic-induced weight gain, however, is a common adverse effect associated with substantial morbidity and poor treatment adherence. This study sought to determine whether genetic variation in drug transporters (ABCB1 and ABCG2) and metabolic enzymes (CYP2D6 and CYP3A4/5) influencing risperidone pharmacokinetics could explain differential outcomes in weight gain. Methods: Weight was measured at baseline and weekly across 8 weeks of risperidone treatment in 225 children participating in the NIMH RUPP-1 (2002) and RUPP-PI (2009) Autism Risperidone trials. Common variants previously shown to impact protein function were genotyped in the drug transporter ABCB1 and the metabolic enzymes CYP2D6 and CYP3A4/5. Common variability across the ABCG2 gene was captured using tagging markers. Results: In our sample, genetic variation at all 3 tested ABCB1 markers predicted risperidone-induced weight gain. Homozygotes for the minor allele (G-allele) of intronic variant rs4148740 gained significantly more weight than common allele carriers ($p<0.0001$). Two synonymous variants were associated with risperidone-induced weight gain; G-allele carriers at rs1128503 and GG homozygotes at rs1045642 were at greater risk for antipsychotic-related weight gain ($p=0.0003$ and $p=0.0018$ respectively). Conclusions: Common genetic variation in the drug transporter ABCB1 influenced antipsychotic-induced weight gain in our dataset. The results survive correction for multiple testing but warrant replication in larger samples and prospective treatment studies. Understanding the pharmacogenetic factors moderating such adverse effects could lead to strategies to individualize treatment matching and achieve more effective therapeutics.

NR7-40
HEALTH PROMOTION AND RISK BEHAVIORS IN BIPOLAR PATIENTS: PERCEPTION OF EFFECTS ON BIPOLAR ILLNESS

Lead Author: Anna Kreiter, B.A.
Co-Author(s): Patrick Chang Hou MD, Nancy C. Maruyama MD

SUMMARY:

Introduction:
Bipolar disorder (BD) patients have high rates of medical illness that may be modifiable by health behaviors. Little is known about health screening and promotion behaviors (exercise, diet, etc.) in individuals with BD. High functioning BP patients report using behaviors that ameliorate medical illness (exercise, diet) to manage bipolar illness. We examine health behaviors patients with severe illness.
Methods:
32 participants, aged 44.8 years (12.4) completed self-report measures identifying medical screening behaviors (physical exam, cholesterol screening, etc.), health promotion behaviors, and their perception of these behaviors on mood and course of bipolar illness.
Results:
71.9% reported 5 to >20 depressive episodes, 59.5% with 5 to >20 manic episodes. In the past year 77% had a physical exam and 65.6% had cholesterol screening. Since diagnosis, 100% of smokers had tried to quit. 87.5% (n = 28) tried to sleep regularly and relax, 81.3% (n = 26) to improve diet, 75% (n= 24) to exercise more, and 65.6% (n = 21) to lose weight. 90.6% felt some changes could influence mood, and 71.9% felt they could influence the course of illness.
Conclusions:
A large percentage of our sample report medical screening behaviors. Severely ill patients use similar health behaviors to manage BP illness compared with high functioning patients. In addition to diet and exercise, behaviors such as sleep, relaxation and socializing were reported to potentially influence mood and course of BP illness. Patients' perceptions of the psychiatric effects of health behaviors can inform interventions to motivate behavior change.

Goodrich DE, Lai Z, Lasky E, Burghardt AR, Kilbourne AM: Access to weight loss counseling services among patients with bipolar disorder. Journal of Affective Disorders 2010; 126: 75-79

Jacka FN, Pasco JA, Mykletun A, Williams LJ, Nicholson GC, Kotowicz MA, Berk M: Diet quality in bipolar disorder in a population-based sample of women. Journal of Affective

Disorders 2011; 129: 332-337

Murray G, Suto M, Hole R, Hale S, Amari E, Michalak EE: Self-management strategies used by 'high functioning' individuals with bipolar disorder: from research to clinical practice. Clinical Psychology and Psychotherapy 2011; 18: 95-109

Ramasubbu R, Beaulieu S, Taylor VH, Schaffer A, McIntyre RS: The Canadian Network for Mood and Anxiety Treatments (CANMAT) task force recommendations for the management of patients with mood disorders and comorbid medical conditions: diagnostic, assessment, and treatment principles. Annals of Clinical Psychiatry 2012; 24: 82-90

NR7-41
INCREASED CARDIOVASCULAR RISKS AFTER ESCITALOPRAM TREATMENT IN PATIENTS WITH PANIC DISORDER

Lead Author: Jung-Yoon Heo, M.D.
Co-Author(s): Kwan-Woo Choi MD, Bum-Hee Yu MD, PhD

SUMMARY:
Objective: Panic disorder has been suggested to increase cardiovascular risk. In addition, some selective serotonin reuptake inhibitors are known to increase cholesterol levels in panic disorder patients. This study examined if escitalopram treatment affected some cardiovascular risk factors in patients with panic disorder.
Methods: Twenty- five patients with panic disorder (14 men and 11 women, mean±standard deviation age; 39.7±10.3 years) and 18 control subjects (7 men and 11 women, mean age; 39.6±9.68 years) were finally included in the study. The fasting baseline levels of serum total cholesterol, LDL-C, HDL-C, and triglyceride were measured in all subjects, as well as the plasma levels of IL-6, tumor necrosis factor-alpha (TNF-?), and tissue factor. These levels were measured again in the panic disorder patients after escitalopram treatment. The panic disorder patients were treated with escitalopram up to 20 mg/day for 3 months. Alprazolam (0.25–1 mg/day) was given to some patients for the first one month after starting the treatment, and was gradually tapered off and completely discontinued after the first month of treatment. All of these patients were medically healthy without any electrocardiographic abnormalities or history of lipid lowering agent and did not have any other comorbid psychiatric illnesses. The clinical severity of panic disorder was assessed using the Panic Disorder Severity Scale (PDSS), Hamilton Anxiety Rating Scale (HAMA), and the Hamilton Depression Rating Scale (HAMD), both at baseline and after the treatment. Body mass index and mean systolic and diastolic blood pressure were also measured before and after the treatment.
Results: The levels of LDL-C, HDL-C, TNF-?, and IL-6 were not different between panic disorder patients and normal control subjects at baseline. The two groups showed no difference in age, sex, body mass index, and mean systolic and diastolic blood pressure. However, the baseline tissue factor level of the panic disorder patients(0.23 ± 0.117ng/ml) was higher than that of control subjects(0.12±0.09ng/ml; p=0.001). After 3 months of effective treatment with escitalopram, the levels of total choelsterol(179.4±29.6mg/dl vs 195.3±33.3 mg/dl, t=-2.859, P=0.009), HDL-C(51.0±11.7mg/dl vs 57.4±15.4mg/dl, t=-2.712, p=0.012), LDL-C(109.0±25.8mg/dl vs 120.0±31.9mg/dl, t=-2.657, p=0.014) and tissue factor(0.23±0.117ng/ml vs 0.24±0.12ng/ml, t=-4.215, p=0.0001) significantly increased in the panic disorder patients, whereas the body mass index, mean systolic and diastolic blood pressure and levels of TNF-? and IL-6 were not changed.
Conclusion: Escitalopram treatment may increase some cardiovascular risks in panic disorder patients, even though escitaloram is an effective anti-panic drug. Thus, clinicians should be more cautious to use escitalopram for panic disorder patients who have overt or covert cardiovascular disorders.

NR7-42
INITIAL PHASE OF THE FIRST PSYCHOTIC EPISODES PROGRAM

Lead Author: Patricia Herbera
Co-Author(s): Martinez Arboleya, Susana

Rado, Francisca

SUMMARY:
Introduction
In this study we focused on the clinical status and treatment in the acute phase of patients with first episode of psychosis
Objective
Our first goal is to describe the patients who debut with acute psycothics symptomsWe analized the clinical status,the diagnosis, pharmacological treatment and toxic abuse.
We studied 42 patients who received assesment in the last year for first episode of psychosis.
We use the Positive and Negative Syndrome Scale (PANNS) to describe their clinical state in the acute phase and the Scale of Evaluation of a Global Activity (EEAG) to measure their state at the time of the first symptomatology. We collect the prescribed treatment in the acute phase.
RESULTS:
Fourteen of the patients where women. The age average were 24 years old
The principal diagnosis after the evaluation where schizophreniform disorder and non specific psychosis.
The median in the PANNS were 27 points in the positive scale, 19 in the negative and 48 in the general.
All the patients were treated with atypical antipsychotics.
DISCUSSION
The 74% of the patients who had a first psychotic episode required hospitalization. The other received ambulatory assesment.
The most common diagnosis were schyzophreniform disorder and non specific psychosis, only sex patients had affective dissorder with psycothic symptoms
In the clinical status, seventeen patients had more punctuation in the negative syndrome
The half of the sample had positive in cannabis in the toxic test
The fourtytwo patients were treated with atypical antipsychot-

ics. Twentyfour of them in monotherapy, of which fifteen with olanzapine.

NR7-43
KETAMINE FOR THE TREATMENT OF POSTPARTUM DEPRESSION

Lead Author: Delisa Eva Guadarrama, M.D.
Co-Author(s): Parekh, J DO; Eckmann, M MD; Quinones, M MD

SUMMARY:

Introduction
Ketamine is an NMDA receptor antagonist frequently used as an anesthetic and analgesic. A growing body of research also indicates that Ketamine has rapid, robust and relatively sustained antidepressant effects. Here we report a case where Ketamine was successfully used to treat severe postpartum depression (PPD).

Methods
Psychiatry referred to our outpatient pain clinic for IV Ketamine treatment a 32 y/o female with a history of Major Depression who met DSM-IV-TR for a Major Depressive Episode with Postpartum Onset, Severe without Psychotic Features. Symptoms started 2 days after delivery. The patient's initial evaluation, 4 weeks postpartum, revealed prominent symptoms as indicated by a 7 item-Hamilton Rating Scale for Depression (HAMD7) score of 21/28; and an Edinburgh Postnatal Depression Scale (EPDS)= 26/30. Patient also reported fleeting SI, was unable to care for her baby and was considering not returning to her fulltime job. A prescribed antidepressant was ineffective and the patient discontinued it due to concerns about exposing her child medications through breast milk.

Results
Patient received IV Ketamine boluses of 25mg every 2-5 minutes up to a total of 200mg with continuous vital sign monitoring. The treatment was well tolerated. The patient discarded breast milk collected 24h after the infusion to avoid exposing her baby to Ketamine. The patient's depressive symptoms improved immediately post-infusion, reaching complete remission by day 7 (HAMD7=2 and EPDS=2) with no SI. Patient returned to her full time job, remaining in remission for 4.5 weeks post-infusion without any other antidepressant treatment. But in the context of social stressors she had a relapse of her PPD. However a second IV Ketamine treatment conducted as described above resulted in remission of symptoms from day 7 until now.

Conclusion
The outcome of this case is encouraging. Further studies are needed to conclusively demonstrate the efficacy Ketamine in the treatment of PDD.

NR7-44
KNOWLEDGE, ATTITUDES AND BELIEFS OF GRADUATE MEDICAL TRAINEES IN PSYCHIATRY TOWARDS THE DSM-5

Lead Author: Manan Jayvant Shah, M.D.
Co-Author(s): Vishal Madaan, MD - University of Virginia Health System, Charlottesville, VA

SUMMARY:

Introduction and Objectives: With a variety of changes proposed in the diagnostic criteria in the upcoming DSM-5, it is important for psychiatrists to stay abreast of this progress in psychiatric classification. Despite the potential impact of these changes in clinical practice, research, training, and even reimbursement, psychiatry trainees may have little awareness of the new proposals. At the end of this poster session, participants will be able to appreciate the awareness of proposed changes in DSM-5 from a resident perspective, and understand the trainees' attitudes and impressions of the DSM-5 and its influence on their training and clinical practice.
Methodology: We designed this brief study to understand the knowledge, attitudes and beliefs of psychiatry trainees towards DSM-5, and to identify specific problem areas that could impede their understanding of such changes, followed by specific recommendations to rectify them. An anonymous survey, approved by the University of Virginia IRB for Social and Behavioral Sciences, containing about 20 questions, was administered online to current graduate medical trainees in general psychiatry and sub-specialty fellowships within the Commonwealth of Virginia. The sample included residents from Virginia Commonwealth University, University of Virginia, Carilion Clinic-Virginia Tech and Eastern Virginia Medical School. The study was approved by the local IRB in August 2012. Data collection began immediately after approval and will continue for 6 months.

Results: At the time of submitting this abstract, thirty-nine subjects had provided responses. Majority of the responders were PGY-4 residents (31%). About 60% responders believed that evidence based research and expert consensus will have contributed to majority of the changes in DSM-5. Interestingly, only 13% participants mentioned that they had received or were going to receive specific education about DSM-5 in their residency program. Almost half of the participants were unaware of the availability of preliminary draft revisions for public review. Almost all (97.5%) participants believed that the DSM-5 task force should publish a quick reference guide to summarize the major revisions after the publication of DSM-5.

Conclusions: There is limited awareness of the DSM-5 changes among current psychiatric trainees, despite DSM-5 field trials and updated draft revisions that have been available in public domain. The trainees anticipate a lot of changes, but feel unprepared and inadequately informed about them. There is a need for targeted education about DSM-5 in the present curricula of psychiatry trainees. Also, it would be worthwhile to publish a brief reference guide to summarize the major revisions in the new DSM compared to its previous version.

Authors: Manan Shah, MD and Vishal Madaan, MD, University of Virginia Health System, Charlottesville, VA

NR7-46
LITHIUM TOXICITY IN A PATIENT WITH GASTRIC BYPASS SURGERY

Lead Author: Muhammad Hassan Majeed, M.B.B.S., M.D.
Co-Author(s): Branden Youngman D.O.; Kiran Majeed M.D; Nivedita Mathur M.D; Christian Urrea M.D; Maria Aguilo-Seara D.O.

SUMMARY:
A significant number of obese patients undergoing gastric bypass surgery have co-morbid psychiatric illness. Up to 45% of patients undergoing gastric bypass have a lifetime prevalence of an axis I psychiatric diagnosis. Many psychiatric patients are on medications, which may be affected by the anatomic and physiologic changes related to gastric bypass surgery. There are many physiological changes in the body / GI tract that can place patients at risk for frequent fluctuations in drug levels, including electrolyte fluctuation, a low volume state, significant weight loss with major alterations in fat distribution. Drugs with a narrow therapeutic index, such as lithium, warrant particular caution as evidence suggests that there is a potential for higher absorption in post gastric bypass patients. A 36-year old female with past medical history of morbid obesity (249 lbs), bipolar II disorder, panic disorder, TBI, HTN, DM, endometriosis, benign intracranial HTN, intractable migraine HA, analgesic rebound HA, and cholelithiasis underwent laparoscopic RYGB (roux-en-Y gastric bypass) with no complications. The patient tolerated the procedure well, and she was discharged to her home on postoperative day 2 on her usual but complicated medication regimen that included lithium 300mg TID, desvenlafaxine and methadone. Two months later she developed diffuse, crampy abdominal pain, nausea, vomiting, decreased tolerance for solid oral intake, low motivation, and polydipsia. The patient remained compliant with her medications during this time, except for methadone, because she felt it increased her nausea and vomiting. Three days later the patient was brought to her outpatient psychiatrist by her mother due to a change in mental status. She presented increased anxiety, diaphoresis, bradycardia, slurred speech, unsteady gait and oriented to person only. Her psychiatrist referred her to the emergency room. She led developed lithium toxicity on a relatively low dose of lithium and her Li level was 2.2mg/dl.
Lithium dissolution is increased by over 200% after bypass surgery. Because a drug's dissolution is directly correlated with its' absorption, such patients will be at increased risk for developing toxic lithium levels. In the patient referred to above, the reasons for lithium toxicity are multi-factorial that including bariatric surgery, drug interactions, low volume state and a loss of fatty tissue after the surgery. There are few case reports of a patient developing lithium toxicity status post gastric bypass in the literature. Additional in-vivo studies are needed to more clearly elucidate the pharmacokinetics of lithium in this patient population. In the meantime, caution and close drug level monitoring would be advised.

NR7-47
LONG-TERM IMPROVEMENT IN QUALITY OF LIFE FOLLOWING CONTINGENCY MANAGEMENT TREATMENT FOR THE HOMELESS

Lead Author: Lauren Hayes, B.S.
Co-Author(s): Anna Davidson, BS; Jesse Milby, PhD; Joseph Schumacher, PhD; Dennis Wallace, PhD; Stephen Mennemeyer, PhD

SUMMARY:
We examined changes in quality of life for those participating in a contingency management treatment for cocaine-dependent, homeless individuals. Participants (n=206) were randomized to receive either abstinent contingent housing and work training (CM) or the CM treatment plus behavioral day treatment (CM+). Participants completed the RAND SF-36v2 at baseline, immediately following active treatment (six months), and at long-term follow-up (12 months). We hypothesized significant improvement in all 8 subscale scores from pre- to post-treatment. We predicted CM and CM+ would be equally effective in improving quality of life. A total of 145 participants had complete follow-up data at 12 months and were used in the analyses. A repeated measures MANOVA was conducted to determine if the two groups differed in improvement across time. There was no significant group X time interaction, F (14, 130) = 1.439, p=.144, Wilk's ?=0.866. Because there were no differences between CM and CM+, they were combined to examine improvement across time. Results indicated significant overall improvement, F (14, 131) = 8.818, p=.000,Wilk's ?=0.515. Graphs of the data showed subscale means increased from baseline to six months, then slightly decreased from six to 12 months, for all subscales except physical functioning. Follow-up one-way ANOVAs showed significant changes in mean scores for: role limitations due to emotional problems, vitality, mental health, social functioning, and general health. Paired sample t-tests showed that, for all areas except general health, there was significant improvement from baseline to six months, then a small but significant decrease in scores from six to 12 months. However, overall change from baseline to 12 months remained significantly improved. Participation in either treatment resulted in improved quality of life in multiple areas, which was sustained for an additional six months after the end of treatment. That both interventions showed improvement in quality of life indicates CM can be as effective as CM+ for some individuals and could be used in a stepped care model for treating addiction.

NR7-48
METHAMPHETAMINE INDUCED LATENT SCHIZOPHRENIA

Lead Author: Sasha Hamdani, M.D.
Co-Author(s): Joshua Makhoul, MSIII

SUMMARY:
19-year-old Hispanic female with no previous psychiatric history admitted for disorganized psychosis after recent, first time use of methamphetamines. Family denied knowledge of

family history of psychiatric conditions. MRI was unremarkable. Treatment team proceeded with diagnosis of Psychosis NOS. Patient was started on olanzapine and lorazepam. Patient remained disorganized, intrusive and labile requiring constant intervention and physical restraints. Divalproex sodium and haloperidol were started and other medications were titrated down and eventually discontinued. Patient had improvement in mood, affect, insight and behavior. On day of discharge, the patient was future-oriented, denied SI, HI, hallucinations or delusions. The patient was readmitted 3 days later for worsening psychosis after discontinuing her medications. Patient's psychosis was present to the same degree as her initial admission. Patient was restarted on home medications. Doses were increased without any clinical improvement and patient developed dystonia and hyperammonemia. Patient eventually had marginal improvement with regimen of haloperidol, olanzapine, divalproex sodium and lorazepam. Patient continued to have minimal insight into disease state and became increasingly focused on discharging home, thus was not completely forthright with her symptoms of paranoia and psychosis. Patient was discharged home under the care of her father against medical advice. Given the persistence of symptoms distant from the substance use and the rarity of permanent psychosis caused by first time use of methamphetamines, the most likely etiology of psychosis was latent schizophrenia exacerbated by exogenous substance use. This report focuses on treatment resistant psychosis that can persist without appropriate, early intervention and medical compliance.

NR7-49
NEUROPEPTIDES IN BORDERLINE PERSONALITY DISORDER: GENETIC AND BEHAVIORAL FINDINGS RELATED TO INTERPERSONAL DYSFUNCTION

Lead Author: M. Mercedes Perez-Rodriguez, M.D., Ph.D.
Co-Author(s): Laura Bevilacqua3, Qiaoping Yuan3, Zhifeng Zhou3, Colin Hodgkinson3, Luis Ripoll1,2, Marianne Goodman1,2, Harold W. Koenigsberg1,2, David Goldman3, Larry J. Siever1,2, Antonia S. New1,2

1Mount Sinai School of Medicine, New York, NY, United States; 2 MIRECC at James J. Peters Veterans Affairs Medical Center, Bronx, NY, United States; 3National Institute on Alcohol Abuse and Alcoholism, Rockville, MD, United States

SUMMARY:

Objective: Neuropeptides, including the opioids, play a key role in the attachment and affiliative behaviors, and thus may be abnormal in borderline personality disorder (BPD). We examined single nucleotide polymorphisms (SNPs) in the mu, delta and kappa opiate receptors and the three endogenous opiate precursor proteins proenkephalin, prodynorphin, and proopiomelanocortin as they relate to BPD diagnosis, attachment difficulty, interpersonal aggression, and social cognition.
Method: Sample: 47 healthy controls (HC) and 50 BPD patients of European American ancestry confirmed by Ancestry Informative Markers (AIMs). Attachment style was measured using the Experience in Close Relationship Scale (ECRI) and aggression by the Buss Durkee Hostility Inventory (BDHI) and the Buss Perry Aggression Questionnaire (BPAQ).
Genotyping: 66 SNPs from the six candidate genes were genotyped on a custom-designed Illumina array, including 186 ancestry informative SNP markers. We also generated and analyzed haplotypes for the SNPs that were significant in the analyses.
Results: 4 SNPs were associated with BPD diagnosis (rs1799971 in the OPRM1 gene; rs10485703 and rs6045824 in the prodynorphin gene; rs9298551 in the proenkephalin gene), but none survived correction for multiple comparisons. The non-ancestral (C) allele of the rs558025 SNP in the OPRM1 gene was significantly associated with anxious attachment (Wilks=.710, approximate F=6.43, $p<0.005$). The rs558025 SNP was also significantly associated with aggression scores (ANOVA F=4.2, df=2, p=0.016), with the C allele showing a dose-related increase in aggression.
Conclusions: We found an association between genetic variation in the OPRM1 gene and symptoms of interpersonal dysfunction, including interpersonal aggression and attachment anxiety, in a sample enriched with personality disordered subjects.

NR7-50
NEUROTOXIC EFFECTS OF THE OLDER ANTIPSYCHOTICS: SEVERAL MOLECULAR MECHANISMS OF ACTION

Lead Author: Stephen James Rush, M.D.
Co-Author(s): Henry A Nasrallah, MD

SUMMARY:

Background: Many studies over the past decade have reported neurotoxic effects of the first-generation antipsychotics (FGA) but not the second-generation antipsychotics (SGA). We present here a review of these studies including the multiple molecular mechanisms of neurotoxicity that have been reported in various animal, human and neuronal cell culture studies

Method: We used the key words of neurotoxicity, antipsychotics, dopamine antagonists, cytotoxicity and apoptosis, to identify English language publications related to this topic over the past decade.

Results: Here we summarize the findings of 15 published studies of the neurotoxic effects of various antipsychotics. 14/15 studies report neurotoxic effects of FGA, but not SGA, with multiple molecular pathways under two major mechanisms:
1. Apoptosis via the following mechanisms: Bcl-XS, p38, JNK, caspase-3, sigma-2 receptor binding, translocation of AIF.
2. Oxidative damage mediated by the following mechanisms: Increased DNA binding of NF-K?, upregulation of I?-B?, BAX, increased p53 expression, decrease in gluta-

thione.
The SGA agents tested in those studies were not associated with neurotoxic effects. The details of these mechanisms will be presented on the poster.

Discussion: The above findings indicate that the older antipsychotic class, such as haloperidol and perphenazine, may have serious neurotoxic effects on neuronal tissue mediated by several mechanisms. These findings are consistent with some clinical neuroimaging reports of cortical atrophy in patients chronically treated with antipsychotics. The implications of these data for avoiding the use of FGA in Schizophrenia and other psychotic disorders are discussed.

NR7-51
OBESITY INDEPENDENTLY LINKED TO AGGRESSION

Lead Author: Pranayjit Adsule, M.D.
Co-Author(s): Gloria Reeves, Sarah J. Hinman, Ayesha Ashraf, Ina Giegling, Annette M. Hartmann, Bettina Konte, Marion Friedl, Dan Rujescu, Teodor T. Postolache

SUMMARY:
Background: Obesity has been established as one of the leading preventable risk factors for various physical and mental health conditions. Although associations between Obesity and personality variables have previously been reported, independent associations between aggression personality variables and obesity have not been established. We hypothesized that Obesity is positively associated with Aggression and Spontaneous Aggression.

Methods: 1,000 individuals (490 men, 510 women, mean age 53.5 ± 15.8) were enrolled at the University of Munich, Germany and self-rated on measures of Aggression and Spontaneous Aggression using the FAF questionnaire. Psychopathology was ruled out using SCID I and II. Their BMI scores were also measured, classifying them as Obese (30 and above) and Not Overweight (24.99 and below). The data was analysed using t tests and adjusted for Age, Sex and Educational status using ANOVA.

Results: Statistically significant differences in total aggression (p=0.012) and spontaneous aggression (p=0.002) were seen between the two groups. Spontaneous aggression score was significantly higher in obese people even after Bonferroni correction (p=0.002).

Conclusions: To our knowledge this is the first reported association of obesity and aggression in psychiatrically healthy individuals screened by gold-standard structured interviews, and as such, it adds to our understanding of personality traits in obese people.

NR7-52
OUTCOME OF FORENSIC ASSESSMENTS AND INTERVENTIONS FOR FITNESS TO STAND TRIAL AND NCRMD (NOT CRIMINALLY RESPONSIBLE ON ACCOUNT OF MENTAL DISORDER)

Lead Author: Hana Raheb, B.A.
Co-Author(s): Simon Chiu MD PhD FRCP ABPN Lawson Health Research Institute & University of Western Ontario London Ont Canada
Liz Goble BA Lawson Health Research Institute & Regional Mental Health Care London Ont.
Maureen Kononiuk Regional Mental Health Care London Ont.
Hana Raheb BA Lawson Health Research Institute & University of Western Ontario London Ontario Canada
G. Sidhu MBBS MRC(UK) FRCP Medical Director Methadone Clinic London Ont. Canada
Zack Cernvosky PhD Lawson Health Research Institute & University of Western Ontario London Ont Canada
Yves Bureau PhD Lawson Health Research Institute & University of Western Ontario London Ont Canada

SUMMARY:
Introduction: The Criminal code of Canada has provisions for Fitness or Competency to stand trial and the Not Criminally Responsible on account of Mental Disorder (NCRMD) comparable to the Not Guilty by Reason of Insanity (NGRI). The extent to which differential treatment responses influence the decision of the provincial forensic review board (FRB)to release or detain individuals found NCRMD remains largely unexplored. Objective study : to determine the clinical and legal profiles of referrals for Fitness assessment and/or NCRMD within a tertiary forensic psychiatric centre in Southwest Ontario and to determine the overall treatment response with the 7-point Clinical Global Impression-Improvement (CGI-I) scale: 1-very much improved and 7=very much worse. Method: We conducted a retrospective review of remands for Fitness and NCRMD assessments over 4-yr period (2003-2006) and identified various forensic psychiatric data files comprising police records, past psychiatric history, criminal court proceedings, fRB proceedings and the hospital and community mental health and addiction centres. Results:We found 10.8% of remands were unfit to stand trial (4/37). Mental retardation-related to cerebral palsy and Korsakoff's dementia accounted for 50% of the unfit cases with poor treatment response. We found that 100% of NCRMD pleas were adjudicated in favor of NCRMD ruling by the provincial criminal court judge, demonstrating a high degree of concordance between psychiatric evaluation and judicial decision making and due process. For NCRMD (n=23), the mean age was 38.5 yrs +/- 12.79 (SD) with male/female ratio of 19/4. The commonest offense was aggravated and simple assault . For psychiatric diagnosis, schizophrenia and schizoaffective disorder accounted for 60.86 % (14/23), followed by bipolar disorder 17.39 % (4/23) and Psychosis NOS 8.69% (2/23) and Psychotic depression 8.69% (2/23). Only one case of paraphilia was identified. Substance use was found to be associated with the index NCRMD offense in 69.56 % (16/23) of the cohort. The NCRMD group showed relatively good treatment response : mean CGI score 2.56 +/- 1.24

(SD) range 1-4. Poor responders towards pharmacotherapy retained in the forensic inpatient units longer prior to granted release order by the fRB. Good responders were granted community release under community release order requiring continuous monitoring, supervision and treatment by the forensic community outreach team. Both the forensic treatment team and the panel of fRB weighed the dynamic and static risk factors and the treatment responses including the degree of compliance with the order. No formal attemptswere made to engage NCRMD remands to participate regularly in substance abuse treatment programs. Conclusion: Outcome for NCRMD may be enhanced through adopting a seamless level of care model integrating psychiatric, addiction and forensic modalities. Unfit remands call for specialised programs .

NR7-53
A CASE REPORT OF MANIA INDUCED BY COENZYME Q 10 IN A PATIENT WITH BIPOLAR DISORDER

Lead Author: Danielle Dahle, M.D.

SUMMARY:

CoQ10 is a key component of the mitochondrial respiratory chain. It acts as an electron carrier between complexes I and II and the complex III of the mitochondrial respiratory chain and regulates mitochondrial uncoupling proteins, the mitochondrial permeability transition pore, b-oxidation of fatty acids and nucleotide metabolism. CoQ10 also acts as a powerful antioxidant which scavenges free radicals, preventing the initiation and propagation of lipid peroxidation in cellular biomembranes. Low levels of CoQ10 in plasma have been observed in patients with depression and CoQ10 deficiency has been proposed to play a role in the pathophysiology of depression. Published studies of individuals with bipolar disorder implicate abnormalities in cellular energy metabolism, including abnormalities in mitochondrial structure and increased oxidative stress and damage to the mitochondrial transport chain, that suggest that CoQ10 supplementation might also be beneficial in this population. Although CoQ10 has been well tolerated in previous studies, there remain many questions about the possible adverse effects. This paper is the first that we know of to describe a case of mania induced in a patient with bipolar disorder upon initiation of coenzyme Q10.

NR7-54
PLASMA CLOZAPINE LEVELS AND DRUG-DRUG INTERACTIONS: A REVIEW OF THE LITERATURE

Lead Author: Harvinder Singh, M.D.
Co-Author(s): Dr. William R Dubin, Chair and Professor, Psychiatry and Behavioral Science, Temple University School of Medicine

SUMMARY:

BACKGROUND: Clozapine is frequently combined with psychotropic medication and a wide variety of non-psychotropic medications for variety of clinical indications (1). The pharmacokinetic interactions can have a significant impact on serum concentration of Clozapine resulting in risk of adverse side effects from elevated serum levels (1). Despite the potential impact of combining medications with clozapine, there are no guidelines regarding the use of plasma drug monitoring during combination treatment with Clozapine (2). This article reviews the literature on Clozapine drug-drug interactions and the effect of these interactions on serum level changes in Clozapine.
METHODS & RESULTS: A total of 32 articles with a total of 72 individual case reports were obtained by manual and computerized literature search from January 1970 to Oct 2011. Individual case reports were reviewed for patient's age, sex, clozapine dose, dose of interacting drug, plasma clozapine level pre and post interaction, and the status post interaction. We only chose articles that measured serum clozapine level pre and post drug interactions. Psychotropic medications most likely to increase Clozapine levels include Fluvoxamine, Lamotrigine, Carbamazepine & Aripirazole. Non psychotropic medications associated with Clozapine level changes include Erythromycin, Ciprofloxacin, Omeprazole, Cimetidine, Modafinil, OCP containing Ethinylestradiol, and Amiodarone. Smoking cessation also increased Clozapine levels.
CONCLUSION: Clinicians must maintain increased clinical vigilance for adverse side effects when clozapine is combined with other medications. The majority of the interactions with clozapine are reported to be mediated by cytochrome P450 enzymes, in particular CYP1A2 & 3A4 (3). Therefore concomitant use of Clozapine and medications that are competitively metabolized by the same CYP system may cause a drug-drug interaction resulting in changes in Clozapine levels (1). On the basis of our literature review, the value of clinical clozapine level monitoring remains to be demonstrated. However, in reviewing the literature, we could find no agreed upper limit associated with clozapine toxicity. Due to the difficulty in interpreting the clinical relevance of clozapine levels and the absence of recommendations for routine clozapine level monitoring, it may be prudent to obtain clozapine levels at the first sign of adverse events or worsening of clinical status, and clinical judgment should always be used in addition to diagnostic testing.
REFERENCES:
1. Edge, S. C., Maekowitz, J. S. and Devane, C. L. (1997), Clozapine Drug–Drug Interactions: A Review of the Literature. Hum. Psychopharmacol. Clin. Exp., 12: 5–20.
2. Mitchell PB. Therapeutic drug monitoring of psychotropic medications. Br J Clin Pharmacol. 2001;52 Suppl 1:45S-54S. Review.
3. Bertilsson L et al. Clozapine disposition covaries with CYP1A2 activity determined by a caffeine test. Br J Clin Pharmacol. 1994 Nov;38(5):471-3

NR7-55
POSTPARTUM ANXIETY DISORDERS IN A WOMEN'S AND CHILDREN'S HOSPITAL IN SINGAPORE : A 4 YEAR PROSPECTIVE STUDY

Lead Author: Yuen Sze Chan, M.B.B.S., M.Med.
Co-Author(s): CHEN Yu, Helen
CH'NG Ying Chia
KK Women's and Children's Hospital

SUMMARY:

BACKGROUND

Many mothers experience affective symptoms during the postpartum period, making postpartum depression an intensely researched topic. Anxiety disorders of postpartum onset, on the other hand, have not been as widely reported or researched. Both disorders often coexist in patients, thus causing postpartum related anxiety disorders to be frequently overlooked by psychiatrists.

METHODOLOGY

The data was gathered prospectively between April 2008 and July 2012. We looked at the prevalence, demographic characteristics, risk factors, symptoms and treatment of mothers who had been diagnosed with Postpartum related Anxiety Spectrum Disorders in a Women's and Children's Hospital in Singapore.

RESULTS

300 patients were reviewed for postpartum related psychiatric issues. A total of 37 women were diagnosed with postpartum related anxiety disorders. Of these, 11 had Postpartum Anxiety Disorder (PAD) with comorbid Postpartum Depressive Disorder, 12 had Adjustment Disorder with anxiety symptoms, 2 had Obsessive Compulsive Disorder of postpartum onset, 1 had Post-traumatic Stress Disorder related to the labour process, and 1 had Panic Disorder. The remaining 10 patients had PAD only. Factors that were more prevalent in mothers with postpartum anxiety spectrum disorders included: problems faced during breastfeeding, being a first time mother, a higher educational level, and having a caesarean delivery. 73% were breastfeeding, with all having feeding related anxiety symptoms. 67.9% received extra help, which included domestic helpers, relatives and confinement nannies. Common symptoms included excessive worry and anxiety over the ability to cope with baby and baby's wellbeing. The average infant age when the mothers sought help was 9.9 weeks. 75.7% received pharmacotherapy and all the patients had individualized case manager involvement throughout the period of followup.

CONCLUSION

Although Postpartum related Anxiety Spectrum Disorders are not as common as affective disorders, they frequently coexist. It is important to recognize the risk factors and identify the symptoms at an early stage of the disorder, so that treatment can be administered promptly.

NR7-56
POSTTRAUMATIC STRESS DISORDER TREATED WITH VERSUS WITHOUT ADJUNCTIVE EMDR: A QUALITY IMPROVEMENT PROJECT

Lead Author: Ferhana Nadeem, M.D.
Co-Author(s): Carolina Mercader DO1, Ferhana Nadeem MD1, Sheraz Riaz MD1, Amy Gomez Fuentes MD1, Susan Morvey BS2, Jaspal Tatla BS2

SUMMARY:

Background: Although there have been studies comparing the efficacy of using pharmacotherapy (SSRIs) versus psychotherapy (EMDR), limited studies exist comparing combination of the two. One researcher presented a combined pharmacotherapy and psychological therapy meta-analysis that concluded evidence was insufficient to support or refute the effectiveness of combined therapy and urged further randomized trials (Hetrick et al., 2010). Similarly in another study, an eight week trial that compared EMDR with fluoxetine and a placebo found that 88% of EMDR, 81% of fluoxetine, and 65% of placebo patients lost their PTSD diagnosis.

Objective: This retrospective analysis is a quality improvement project designed to create awareness of the efficacy of adding EMDR therapy to conventional pharmacological treatment.

Methods: Our selection criteria included patients of any age or gender with an Axis I diagnosis of acute or chronic PTSD with follow-up care in our outpatient clinic between 2008 and 2012. Charts were reviewed and data was collected from electronic medical records for each of the non-EMDR and EMDR subsets. Measure of outcome included medication history (dosage titration, augmentation, or substitution), tally of outpatient visits and inpatient hospitalizations.These results were statistically analyzed for each outcome measure utilizing calculation of mean, 95% CI, mean difference between groups, and t-test (two-sample, two-tailed distribution, unequal variance) to determine statistical significance (i.e. p-value<0.05).

Results: A total of 15 EMDR patient charts analyzed yielded an outpatient follow-up mean of 14.4 visits/year (95% CI= 8.2-20.6), inpatient hospitalization mean of 0 hospitalizations/year, and a medication changes mean of 8.2 changes/year (95% CI= 3.5-12.8). In the non-EMDR data set where n=58, patient charts yielded an outpatient follow-up mean of 15.3 visits/year (95% CI=11.4-19.2), inpatient hospitalization mean of 0.6/year (95% CI=0.3-.8), and a medication changes mean of 1.0 change/year (95% CI=0.7-1.3). Although the mean number of outpatient follow-up visits/year remained greater in the non-EMDR group with a mean difference of 0.9 visits/year, the differences were not statistically significant (p-value=0.23).There was a mean difference of 7.2 medication changes/year more in the EMDR group with statistical significance (p=0.01).

Conclusions: Adjuvant EMDR therapy reduced inpatient hospitalizations by 0.6/year, a statistically significant result. The addition of EMDR increased medication changes per year by 7.2. The small EMDR sample group and comorbid psychiatric conditions among this subset may have accounted for this discrepancy. In conclusion, larger studies are further needed to more accurately assess the qualitative efficacy of adjunctive EMDR therapy in PTSD patients.

References:

1. Kolk B,Journal of Clinical Psychiatry. 2007; 68:37-46.
2. PubMed PMID: 20614457

NR7-57
PRAZOSIN FOR TREATMENT OF NIGHTMARES AND OTHER PTSD SYMPTOMS: A LITERATURE REVIEW

LEAD AUTHOR: SCOTT YOHO, D.O., M.B.A.
Co-Author(s): Curtis McKnight, MD

SUMMARY:
Title: Prazosin for Treatment of Nightmares and other PTSD Symptoms: A Literature Review

Introduction: Posttraumatic stress disorder (PTSD) is a syndrome that occurs in some people following exposure to disturbing and potentially life-threatening traumatic events. PTSD symptoms include frequent re-experiencing of the trauma (with intrusive thoughts, nightmares, or flashbacks), emotional numbing, avoidance behaviors, and persistent arousal. People who a PTSD diagnosis can have significant social, occupational and interpersonal dysfunction. Effective treatment modalities include psychotherapy and medications. Prazosin is an alpha-adrenergic receptor blocker that has been proposed as a treatment modality for decreasing nightmares and improving sleep for patients with PTSD

Objective: To review the current literature on Prazosin as a treatment modality for nightmares and other PTSD symptoms in patients with a diagnosis of PTSD.

Method: This study consists of a literature review performed by searching PubMed using keywords: Prazosin, PTSD, Nightmares, Flashbacks, Alpha-adrenergic Receptor Blocker, Sleep. Search for these terms resulted in 159 articles, ranging in publication date from 1974 to the present. Articles were reviewed based on relevance, content, and online availability.

Results: While SSRI's are considered "first line pharmacotherapy treatment" for PTSD, patients frequently have unresolved nightmares and dysfunctional sleep patterns. In small randomized control trials, prazosin has been shown to decrease nightmares and improve sleep in patients with a diagnosis of PTSD. Patients who have taken prazosin have experienced greater average sleep time when compared to placebo and have had fewer nightmares. The mechanism of action behind prazosin's effectiveness in reducing nightmares and increasing total sleep is prazosin's reduction of corticotropin-releasing hormone, a neuropeptide elevated in PTSD. Increased CNS noradrenergic outflow in PTSD likely stimulates alpha adrenergic regulation of the prefrontal cortex, which in turn disrupts cognitive processing and increasing fear responses. This can be alleviated with prazosin administration. Patient's taking prazosin show improvement in primary outcome measures of nightmares, sleep disturbance, and global change in PTSD severity and functional status when compared to placebo. Prazosin is generally tolerated very well with mild orthostatic hypotension and dizziness as possible side effects.

Conclusions: There is literature available supporting the efficacy and safety of prazosin for treatment of trauma-related nightmares, sleep disturbance, and overall PTSD severity and function. While more research and larger scale studies are needed on prazosin in the treatment of nightmares and sleep dysfunction in people with PTSD, there is evidence to support it as a good option for patients currently. Patients who have not responded to other treatment modalities such as psychoth

NR7-58: MOVED TO NR5-94

NR7-59
PSEUDOSEIZURES IN PATIENTS WITH CHRONIC EPILEPSY AND MODERATE COGNITIVE IMPAIRMENT: THE NEED FOR VIDEO-EEG MONITORING FOR ADEQUATE DIAGNOSIS

Lead Author: Batool F. Kirmani, M.D.
Co-Author(s): Diana H. Mungall
Texas A & M College of Medicine
Medical Student

SUMMARY:
The objective of our study is to emphasize the importance of intensive video EEG monitoring in patients with well-established diagnosis of epilepsy with moderate cognitive impairment. The idea is to diagnose new onset frequent atypical events prompting the need for frequent emergency room and clinic visits and hospital admissions. Retrospective chart reviews were conducted on patients with chronic epilepsy with moderate cognitive impairment who had increased incidence of new onset episodes different from the baseline seizures. Data were acquired from electronic medical records. Approval for this retrospective analysis of patient records was given by the hospital's Institutional Review Board. We retrospectively analyzed 3 patients with an established diagnosis of epilepsy. Extensive chart reviews were performed with emphasis on type and duration of epilepsy and description of baseline seizures and description of new events. There were two men and one women with moderate cognitive impairment. One subject had generalized epilepsy and other two had temporal lobe epilepsy. The patients were on an average of two to three antiepileptic medicines. The duration of follow up in our neurology clinic ranges from 9 months to 5 years. The occurrence of increased frequency of these atypical events as described by the caregivers, despite therapeutic anticonvulsant levels, prompted the need for 5-day intensive video EEG monitoring. New atypical spells were documented in all threepatients and the brain waves were normal during those episodes. The diagnosis of pseudoseizures was made based on the data acquired during the epilepsy monitoring unit stay. Our data analysis showed that intensive video EEG monitoring is an important tool to evaluate change in frequency and description of seizures even in cognitively impaired patients with an established diagnosis of epilepsy for adequate seizure management .

NO. 60
PSYCHOTROPIC MEDICATION PROFILES OF YOUTH AT THE WASHINGTON STATE CHILD AND ADOLESCENT PSYCHIATRIC HOSPITAL

Lead Author: Amna Suraya Aziz, B.A.
Co-Author(s): Jack McClellan, MD, University of Washington Department of Psychiatry & Behavioral Sciences

SUMMARY:
OBJECTIVE: The number of children in the United States treated with a psychotropic medication has risen substantially over the last decade, leading to concerns about polypharmacy, adverse side effects, and the use of medication in vulnerable populations. This study examines psychotropic medication profiles in patients recently discharged from the Washington State youth psychiatric hospital, the Child Study and Treatment Center. METHODS: We examined psychotropic medication profiles in 62 patients discharged from the CSTC between January 1,2 011-May,31 2012 to: 1) describe the patterns of medications prescribed at the time of admissions and discharge, characterized by demographic factors, and 2) characterize potential adverse events related to medication profiles through clinical data. RESULTS: Data analysis is not yet complete but trends can be seen in polypharmacy, antipsychotic adverse effects, and the ability of the CSTC to reduce the number of medications prescribed. CONCLUSION: These data cannot be generalized due to the unique nature of the CSTC and its patient population,
however, it will enhance understanding of prescription practices and related adverse events for children and adolescents with serious mental illness in hopes of improving psychiatric care and practices at the CSTC and by other clinicians.

NR7-61
PSYCHOTROPIC PRESCRIPTION PATTERNS FOR INPATIENTS WITH SCHIZOPHRENIA: 10-YEAR COMPARISON IN A UNIVERSITY-AFFILIATED HOSPITAL IN SOUTH KOREA

Lead Author: Inhwan Hwang
Co-Author(s): Daeho Kim, Yongchon Park, Changhyun Jang, Aran Min

SUMMARY:
Objective: The literature on the prescription change among patients with schizophrenia from real-world setting is scarce. And most of studies investigated only antipsychotic use. Given the polypharmacy is a routine process in clinical practice, we examined the patterns of all psychotropic medications from a psychiatric inpatient unit of university-affiliated hospital.

Methods: All admission records at a psychiatric unit of Hanyang University Guri Hospital with discharge diagnoses of schizophrenia during two different five-year time frames (1997-2000 and 2006-2010) were reviewed. We investigated the sociodemongrpahic and clinical data and discharge medications. The data were gathered from a total of 207 patients (95 in 1990's and 112 in 2000's).

Results: The frequency in use of atypical antipsychotics (98.2% vs 62.1%, chi square=44.7, $p<0.01$), antidepressants(8.9% vs 1.1%, chi square=6.3, $p<0.05$), beta-blockers(33.0% vs 15.8%, chi square=8.1, $p<0.01$), and benzodiazepine(41.1% vs 20.0%, chi square=10.6, $p<0.01$) were significantly higher in 2000's. Anticholinergic drugs were less likely used in 2000's(58.9% vs 76.8%, chi square=7.5, $p<0.01$). We did not find significant differences in the equivalent dose of antipsychotic drugs, the use of mood stabilizers and cholinergic drugs between two time frames.

Conclusion: Increased proportion of atypical antipsychotics and decreased use of anti-parkinsonian drugs are in line with literature. And our results show that more diverse classes of psychotic medications are used for schizophrenia in recent years. It is likely that psychiatrists are becoming more conscious of negative symptoms, anxiety, and depression as well as positive symptom of schizophrenia.

Keywords: Schizophrenia; Medication; Prescription; psychotropics; atypical antipsychotic

NR7-62
RAPID RESOLUTION OF DEPRESSIVE SYMPTOMS WITH METHYL PHENIDATE AUGMENTATION OF ANTIDEPRESSANT IN AN ELDERLY DEPRESSED HOSPITALIZED PATIENT

Lead Author: Subramoniam Madhusoodanan, M.D.
Co-Author(s): Diana Goia MD

SUMMARY:
Introduction/Hypothesis:
Elderly depressed patients with multiple comorbidities pose a significant challenge in treatment due to the pharmacokinetic and pharmacodynamic changes and the fragility of their physical conditions. Presence of suicidal tendencies, poor eating pattern, delayed therapeutic action of all antidepressant drugs and partial or no response to antidepressants further complicate the management of depression in elderly patients. In a hospital environment, the pressure from managed care companies and length of stay considerations call for strategies which reduce the hospital stay. We report an elderly patient admitted with severe depression and poor eating pattern who improved rapidly with augmentation treatment of the antidepressant with methylphenidate.

Methods:
A 72 year old man with no previous psychiatric hospitalization, but recent psychiatric care in the nursing home was admitted because he was refusing to eat or open his mouth for a week prior to admission. He also was paranoid and jealous about his wife. He was depressed and had impaired memory. He was not suicidal or homicidal. He had history of depression, dementia, diabetes mellitus, gastro esophageal reflux disease, glaucoma, hypertension, megacolon, and quadriplegia secondary to spinal cord injury. His diagnosis on admission was dementia Alzheimer's type with depressive and delusional symptoms. Patient was on mirtazapine 30 mg po hs on admission on 7/28/12. He was started on risperidone 0.5 mg PO

daily and titrated up to 2.5 mg daily by 8/7 in view of continuing psychotic symptoms. Patient's mood was labile and he was eating and communicating poorly. On 8/3/12, methylphenidate 0.5 mg was added in in view of poor eating pattern and communication and depressive symptoms. Patients's eating pattern and communication improved over the next 7-10 days and patient was discharged on 8/13/12. Clinical status was assessed by Clinical Global Impression (CGI) scale.

Results:
CGI-S score on admission (baseline) was 6. At midpoint (1 week after admission) CGI-S score was 6 when methyl phenidate 5 mg was added. CGI-I at this time was 3. At end point (discharge) a little over 2 weeks after admission CGI-S was 1 and CGI-I also 1. Patient tolerated the methyl phenidate augmentation without any significant side effects.

Conclusion/Discussion:
Our patient showed significant improvement justifying discharge in about 2 weeks of admission. Previous open label studies of methyl phenidate augmentation in elderly out patients showed improvements by week 8 and a small controlled study showed improvement by week 3. Methyl phenidate augmentation may be helpful in elderly depressed patients for clinical improvement, reducing morbidity and duration of length of hospital stay. Further controlled studies are recommended.

NR7-63
RELATIONS BETWEEN RESTING STATE FUNCTIONAL BRAIN CONNECTIVITY AND AUTISTIC TRAITS IN NEUROTYPICAL ADULTS

Lead Author: Zhe Zhou
Co-Author(s): Cara R. Damiano, Kristin K. Sellers, Stephanie Miller, Eleanor Hanna, Megan Kovac, Chris Petty, Rachel Kozink, Brett Froeliger, Francis J. McClernon, and Gabriel S. Dichter

SUMMARY:

Introduction: Based on the recognition of the dimensional nature of autistic traits (Di Martino et al., 2009) and the underconnectivity theory of autism, the purpose of this pilot study was to investigate relations between resting-state functional brain connectivity (rsFC) in canonical resting state networks (the default mode network, the dorsal attention network, the executive control network, and the salience network) and a dimensional measure of autism symptoms in neurotypical adults.

Methods: Thirty-five neurotypical adults who scored below the recommended cutoff indicative of a possible diagnosis of autism on the Autism Quotient completed a 6-minute resting state scan on a 3.0T GE Signa EXCITE HD scanner at the Duke-UNC Brain Imaging and Analysis Center and the adult version of the Social Responsiveness Scale (SRS), a dimensional measure of autistic traits. Analyses of resting state data were implemented in FSL and correlations between SRS scores and connectivity in canonical resting state networks were evaluated.

Results: Due to the exploratory nature of this pilot study, significant results were thresholded at an uncorrected p-value of .05.

Salience Network: SRS scores were directly related to connectivity between the left lateral parietal lobe and the left insula and the left anterior prefrontal cortex.

Executive Control Network: SRS scores were directly related to connectivity between left anterior PFC and the left superior parietal lobe; and inversely related to connectivity between dorsal medial PFC and left superior parietal lobe.

Dorsal Attention Network: SRS scores were directly related to connectivity between right anterior intraparietal sulcus (IPS) and left posterior IPS; and inversely related to connectivity between left anterior IPS and right posterior IPS and right medial temporal lobe.

Default Mode Network: SRS scores were directly related to connectivity between bilateral posterior cerebellum and; inversely with connectivity between posterior cingulate cortex and left inferior temporal and left lateral parietal cortices.

Conclusions: Results indicate that individual differences in rsFC are related to autistic traits in the general population. Relations between autistic traits and bilateral insula hypoconnectivity are consistent with prior reports using a seed-based approach (Di Martino et al., 2009) but extend this work to examine additional networks via a whole-brain analytic approach. Additional analyses will examine relations between functional connectivity and SRS subscale scores, and future studies will be needed to replicate these findings in larger samples using appropriate statistical corrections for multiple comparisons.

References:
Di Martino A, Shehzad Z, Roy AK, Gee DG, Uddin LQ, et al. (2009); Relationship between cingulo-insular functional connectivity and autistic traits in neurotypical adults. Am J Psychiatry 166: 891–899.

NR7-64
RELATIONSHIP BETWEEN SELF-ACTUALIZATION AND ANTICIPATED BENEFITS OF CARE IN PSYCHIATRIC TREATMENT

Lead Author: Matej Markota, M.D.
Co-Author(s): Andre R. Alexander, BS
Charles D. Hanson, MD

SUMMARY:

Investigated the relationship between measures of self-actualization and optimism for psychiatric treatment outcomes with 22 psychiatric patients who completed the Short Index of Self-Actualization and the Anticipated Benefits of Care. Anticipated Benefits of Care scores were significantly ($p < .001$) negatively correlated to the Self-Actualization item, "I have no mission in life to which I feel especially dedicated". Total scores of the two constructs were significantly ($p = .040$) correlated, supporting the contention that self-actualized individu-

als are more optimistic about their psychiatric treatment. A significant ($p = .020$) effect of race was found whereby latino subjects were less self-actualized and less optimistic about psychiatric treatment than white subjects. Implications for clinical psychology and psychiatric treatment are discussed (potential benefits and mechanism of combined treatment).

NR7-65
SADNESS, SUICIDE, AND DRUG MISUSE: RESULTS FROM THE YOUTH RISK BEHAVIOR SURVEY 2011

Lead Author: Sean kaley, M.D.
Co-Author(s): Erick Messias, MD
Michael Mancino, MD

SUMMARY:
Introduction: Suicide is a grievous and preventable tragedy, which sadly stands among the leading causes of death among teens in the United States. Previous epidemiological research has shown an association between illegal drug use in both depression and suicidality. We hypothesized that teens reporting illicit drug or prescription drug misuse are at higher risk of depression and suicidality. Methods: We used data from the 2011 Youth Risk Behavior Survey (YRBS), a nationally representative sample of U.S. high-school students, to measure the association between drug use with depression and suicidality. Outcome variables included: reported sadness/hopelessness, suicidal ideation, planning, attempt, and attempt requiring treatment. All analyses were conducted using Stata 11. Weight procedures were performed according to CDC guidelines. All proportions are reported with 95% confidence intervals. Adjusted odds ratios were calculated using logistic regression and are also reported. Results: 15212 questionnaires are included in our analysis. Three types of substance misuse were reported by more than 10% of U.S. high school students: cannabis (39.9% ever used), prescription drugs without a prescription (20.7% ever used), and inhalants or "huffing" described as "glue, aerosol spray, or paint" (11.4% ever used). 28.5% of responding students reported feeling significant sadness/hopelessness in the prior 12 months lasting at least 2 weeks. This rate significantly increased to 36.5% [95% C.I. 34.7-38.4] in cannabis users, 44.4% [41.5-47.4] in prescription drug misusers, and 51.9% [49.3-54.5] in inhalant users. Regarding suicide, 7.8% of students sampled reported at least 1 attempt in the previous 12 months. This rate jumped to 12% [11.0-13.4] in cannabis users, 17% [15.2-19.5] in prescription drug users, and 23% [20.3-26.2] in inhalant users. Odds ratios calculated and adjusted for age, race, and gender remained statistically significant. Discussion: In all suicide outcomes we found the strongest association with prescription drug abuse, followed by inhalant abuse, and then cannabis abuse. Only in the depression outcome did inhalant use have a stronger association compared to prescription abuse. As with many psychiatric problems, identifying risk factors is a key step in developing preventive strategies to address the tragedy of adolescent suicide. We believe this report conveys important updated information to teens, parents, teachers, and health professionals regarding the association of known abused substances with sadness and suicidal behaviors in the current teen population. Further research is needed on prevention of drug abuse among teens. Programs to address these risk factors are recommended.

NR7-66
SCHIZOAFFECTIVE DISORDER IN A RARE DISORDER, COWDEN SYNDROME – A CASE REPORT.

Lead Author: Trinadha Pilla, M.D.
Co-Author(s): Chad Noggle, PhD. Malathi Pilla, MD. Aghaegbulam Uga, MD. Vineka Heeramun, MD. Jeffrey I.Bennett, MD.

SUMMARY:
Introduction: First described in 1963, Cowden syndrome is one of 4 which make up the PTEN hamartoma tumor syndromes; the other syndromes are Bannayan-Riley-Ruvalcaba syndrome, Proteus syndrome, and Proteus-like syndrome. Cowden syndrome is inherited in an autosomal dominant manner and occurs in up to 1 of every 200,000 people. 85% of individuals who meet the criteria for Cowden syndrome have a detectable PTEN mutation. CNS manifestations of this disorder include Lhermitte-Duclos disease (dysplastic gangliocytoma of the cerebellum) which is pathognomonic for this disease and ganglioneuromas. A case report of Lhermitte-Duclos disease presenting as psychosis has been reported in the literature. Intellectual disability and autism have also been described in this syndrome.

Case Presentation: A 34-year-old Caucasian male grew up hearing voices since he was a child. He grew up thinking hearing voices was a part of life. Finally he saw a psychiatrist and he was diagnosed with schizoaffective disorder at age 26 years. He had a history of suicidal attempts since age 14. Lifelong cutting behavior stopped after he tattooed himself on most of his body. He had been having memory problems for many years. He presented with a thyroid nodule, left sided gynecomastia, small papules on his nose and forehead and with a head circumference in the 97th percentile. He previously had a benign testicular mass removed. His mother had been diagnosed with breast and uterine cancer and had multiple lipomas on her body. His sister had thyroid cancer and macrocephaly. His son has macrocephaly. Genetic testing came back positive for the Y16X mutation in the PTEN gene. His family is now undergoing genetic testing. Biopsies of the left breast and thyroid nodule showed gynecomastia and a benign follicular nodule respectively. Our patient underwent colonoscopy showing multiple ganglioneuromas. An MRI of the brain excluded Lhermitte-Duclos disease. He is undergoing neuropsychological testing.

Discussion: The PTEN gene encodes the phosphatase and tensin homolog (PTEN) protein which regulates the cell cycle, preventing cells from growing and dividing too rapidly. Thus PTEN acts as a tumor suppressor. A mutation of this gene leads to the development of many cancers as well as non-cancerous growths. Among the few CNS manifestations this is the first case report of schizoaffective disorder associated with this syndrome.

NR7-67
SELECTIVE METHYLATION OF BRAIN DERIVED NEUROTROPHIC FACTOR GENE PROMOTER IN MAJOR DEPRESSIVE DISORDER AND BIPOLAR DISORDER

Lead Author: Beatrice Benatti, M.D.
Co-Author(s): Dell'Osso B, D'Addario C, Galimberti D, Palazzo MC, Camuri G, Benatti B, Albano A, Di Francesco A, Scarpini E, Maccarrone M, Altamura AC

SUMMARY:
Introduction. Major depressive disorder (MDD) and bipolar disorder (BD) are prevalent and disabling mood disorders, characterized by recurring mood ?uctuations, with potential overlapping genetic risk factors (1). Brain-derived neurotrophic factor (BDNF), an important neurotrophin in?uencing synaptic plasticity, has been extensively investigated as a possible functional candidate gene underlying the predisposition for developing mood disorders, and DNA methylation represents an epigenetic mechanism contributing to its transcriptional regulation (2). The aim of the present study was to investigate the level of methylation at the BDNF gene promoter region in patients with BD type I vs type II vs MDD.
Methods. DNA was isolated from peripheral blood mononuclear cells (PBMCs) of 154 patients, on stable pharmacological treatment, with a DSM-IV-TR diagnosis of BD, either type I (n=61) and type II (n=50) BD, or MDD (n=43). After bisulphite sodium conversion, a Real-Time Methylation Specific PCR was performed on DNA samples. Statistical differences of DNA methylation changes at BDNF promoter among BD and MDD patients were determined by unpaired t test.
Results. An increase of DNA methylation at BDNF gene promoter region was found in MDD patients vs BDI patients (33,50%±1,98% vs 23,88% ± 1,76%; $p<0.01$) and in BDII patients vs BDI patients (33,49% ± 2,8% vs 23,88%± 1,76%; $p<0.01$). Of note lower levels of DNA methylation at BDNF promoter were observed, considering the whole sample of MDD+BDI+BDII, in subjects exclusively on pharmacological treatment with mood stabilizers (22,51% ± 2,02%) compared to those assuming others pharmacological treatments (21.7%±1.8%; p 0.0034).
Conclusions. Present findings show a higher methylation of BDNF promoter gene region in MDD subjects vs BDI subjects and in BDII subjects vs BDI subjects. This is in line with previous observations in BDII and MDD subjects and provide additional evidence in relation to BDNF gene transcription reduction in the PBMCs of MDD and BDII patients (2,3). Moreover, lower levels of DNA methylation at BDNF promoter were observed in subjects exclusively on pharmacological treatment with mood stabilizers compared to those receiving others pharmacological treatments. Such ?ndings seem to underline that mood stabilizers are associated with reduced DNA methylation of the BDNF promoter in both MDD subjects and BD subjects, when compared to other compounds. The presence of such associations seems to indicate BDNF regulation as a key target for such drugs and BDNF as a possible peripheral biological marker in mood disorders.

NR7-68
SEROTONIN TRANSPORTER GENE POLYMORPHISM AND ALCOHOL USE DISORDERS ASSOCIATION IN REFRACTORY MOOD DISORDER PATIENTS

Lead Author: Alfredo Bernardo Cuellar Barboza, M.D.
Co-Author(s): Osama A. Abulseoud, MD1, Miguel L. Prieto, MD1,2, Joanna M. Biernacka, PhD1, Simon Kung MD1, Renato Alarcon, MD, MPH1, Marin Veldic MD1, Mary J Moore, RN1, Mark A. Frye, MD1

Dept. of Psychiatry & Psychology, Mayo Clinic, USA1; Universidad de los Andes, Chile3

SUMMARY:
Background: The serotonin transporter gene, SLC6A4, encodes the protein responsible for the reuptake of serotonin from the synapse; is located on chromosome 17 (17q11.1-q12) and has two well-studied polymorphisms: a 44-base pair insertion/deletion at the promoter region (5-HTTLPR) leading to long (l) and short (s) allele variants, and a variable number of tandem repeats (VNTR) in the second intron. In some but not all studies, the s-allele, in comparison to the l-allele, has been associated in gene x environment interaction studies with risk of depression, alcohol, substance use disorders (AUD and SUD) and SSRI response in AUD treatment. However, few studies have looked at the interaction of 5-HTTLPR genotypes and more specific clinical phenotypes of mood disorders such as severity markers and comorbidity.

Methods: A cross-sectional study of adult patients evaluated for refractory mood disorders at the Mayo Clinic Depression Center, genotyped for 5-HTTLPR, as part of their clinical assessment, from 2008 to 2011 (n=299). 5-HTTLPR polymorphisms were grouped as l/l vs (l/s + s/s). Associations were analyzed between polymorphism and clinical phenotypes (AUD and SUD comorbidity; psychotic symptoms, suicide attempts, anxiety comorbidity and family history of mood disorders), severity markers of current symptoms utilizing PHQ9, GAD7, AUDIT, medical comorbidity utilizing the Cumulative Illness Rating Scale (CIRS), and past mood history (ECT, history and number of hospitalizations). Standardized chi-square and t test were used for analysis.

Results: There were higher rate of lifetime AUDs in the (s/s + s/l) vs l/l genotype; the AUDIT score was non significantly elevated in this same group. No relationship was found between 5-HTTLPR genotype and other clinical phenotypes or severity markers.

Conclusions: Our data suggest that the s-allele could be associated with AUD in refractory mood disorders. This association could be explained by the narrowed selection of clinical phenotypes. Further studies are needed to replicate this finding.

NR7-69
SEROTONIN TRANSPORTER VARIATION INFLUENCES METHYLPHENIDATE RESPONSE IN CHILDREN WITH AUTISM SPECTRUM DISORDERS AND HYPERACTIVITY.

Lead Author: Emma H. Gail
Co-Author(s): Karyn S. Mallya, Erika L. Nurmi, James T. McCracken, and the RUPP Autism Network.

SUMMARY:
Objective: Methylphenidate (MPH) is an effective treatment option for children with hyperactivity and Autism Spectrum Disorders (ASD); however, response to MPH is highly variable. We hypothesized that genetic variation may contribute to differential treatment response. Due to the putative influence of serotonergic systems in autism and hyperactivity, we tested all common variation (>10%) in the serotonin transporter (SLC6A4) gene as well as two common functional repeat polymorphisms (HTT-LPR and STin2) for association with MPH response. Methods: Subjects participating in the Research Units on Pediatric Psychopharmacology (RUPP) Autism Network MPH study were genotyped for SLC6A4 polymorphisms according to standard protocols. Hyperactivity was measured on the Aberrant Child Behavior Checklist and Clinical Global Impression Improvement scale. Results: The STin2 variable number tandem repeat (VNTR) polymorphism 10 allele-carrier group demonstrated greater response than 12/12 homozygotes ($p<0.05$). A dose effect was apparent for intronic tag SNP rs12150214. Those who were minor allele carriers demonstrated consistently greater responses to high MPH doses than common allele homozygotes who did not tolerate higher doses well (P=0.026). This SNP, while intronic, is in a linkage disequilibrium block showing multiple enhancer histone marks suggesting an area of active transcriptional regulation. Conclusions: MPH response in children with ASD was correlated with variants in SLC6A4 at both a single nucleotide polymorphism (SNP) in intron 1 (rs12150214) and the intron 2 VNTR, both mapping to the 5' end of the SLC6A4 and potentially impacting gene expression based on extant literature and database mining. While our study is preliminary due to the modest sample size, these data can guide further studies, which are strongly need in this largely unexplored area.

NR7-70
SERVICE UTILIZATION IN A HIV & LGBTQ COMMUNITY MENTAL HEALTH CLINIC

Lead Author: Jacob Sacks, M.D.
Co-Author(s): Matthew Lezama, BS
George Harrison, MD
Christina Mangurian, MD
Jim Dilley, MD
Martha Shumway, PhD

SUMMARY:
Title: Service Utilization in a HIV & LGBTQ Community Mental Health Clinic

Objective: Public mental health clinics face chronic pressures to deliver care to underserved populations using limited resources. The development of effective and efficient programming relies on accurate characterization of target classically underserved populations and their specific clinical needs. This study focuses on utilization of services in a Community Mental Health Clinic targeting the underserved HIV & LGBTQ communities.

Method: Billing data was compiled to identify the subset of HIV/LGBTQ clients utilizing the most clinic services. By chart review, the group of highest-utilizing clients was then characterized in comparison to a group of mean-utilizing clients.

Results: Results will characterize the high-utilizers compared to the mean-utilizers, including differences in diagnoses, types of services used, number of providers accessed, total length of time in treatment, and demographics (age, race, gender, sexual orientation, education level, insurance coverage, entitlements).

Conclusions/Educational Objectives: At the end of this session, the participant should be able to more accurately describe the patterns of service-utilization in the understudied HIV & LGBTQ populations.

NR7-71
SOCIAL ANXIETY DISORDER AND MAJOR DEPRESSIVE DISORDER- A SEVERE COMORBIDITY OR NOT?

Lead Author: G. Camelia Adams, M.D., M.Sc.
Co-Author(s): Lloyd Balbuena PhD
Marilyn Baetz MD, FRCPC

SUMMARY:
Background: Even though considered to be the most prevalent anxiety disorder, Social Anxiety Disorder (SAD) has been noted to be often underdiagnosed and undertreated. Several recent studies have pointed out the increased risk of developing Major Depressive Disorder (MDD) in this population and also a rather significant severity of the clinical presentation in those with MDD-SAD.
Method: We used data from the 2001 Collaborative Psychiatric Epidemiology Surveys. Over 20 013 respondents aged 18 and above comprised the sample. We compared the severity of MDD-SAD in comparison with other comorbidities between depression and other anxiety disorders
Results When compared with other comorbid groups between depression and other anxiety disorders (PTSD, GAD, PD, OCD), MDD-SAD was similar in the majority of outcomes (suicide attempts, unemployment, social interaction or self-care). However, the prevalence of MDD-SAD was almost double than the one of MDD-PTSD and almost as high as MDD and any other anxiety disorder combined (GAD, PD, OCD)
Conclusion: The severity of MDD-SAD is comparable with the severity of more recognized syndromes such as PTSD-MDD but with an increased frequency in the population at large. This is inviting to an increased recognition of this rather quiet

and often overlooked comorbidity.

NR7-72
SOUNDING: URETHRAL SELF INSERTION OF FOREIGN OBJECTS

Lead Author: Ricardo Budjak, M.D.
Co-Author(s): Nima Sharif M.D., Camille Paglia M.D., J.D.

SUMMARY:

Purpose:

We present here two cases of urethral self-insertion of foreign objects. One case is of a man with a paraphilia who engages in this act for erotic gain. The second case involves a patient with schizophrenia who began to display this behavior after making a pact with God due to fear of the consequences of his homosexual acts. Patients who practice urethral self-insertion come from different backgrounds, and have a variety of motivations for their behavior. When performed for autoerotic purposes this act is called sounding; the practice of inserting plastic or metal 'sounds' into the urethra. These patients often require comprehensive care by a team including surgeons, infectious disease specialists, and psychiatrists, and tend to evoke intense emotional reactions (i.e., disgust, anger, embarrassment) in treating physicians, which may interfere with sound medical judgment and care. Through these case presentations, we hope to promote a further understanding of this diverse group of patients.

Methods:

The PubMed and OVID databases were searched using the following keywords: urethral-self insertion; self-mutilation; foreign object insertion; urethral mutilation

Results:

Self-insertion of foreign objects into the urethra is seldom observed in clinical urologic practice. Cases of this behavior have been reported which include the insertion of various objects, including light bulbs, fruit kernels, screws, pebbles, and wires. The patient's ages are also variable, ranging from teenagers to patients in their eighties. Urethral self-insertion has been attributed to autoeroticism, borderline personality disorder, malingering, factitious illness, sexual identity problems and female identification, intoxication and atypical masturbation. While the psychological factors associated with general forms of self-mutilation have been reviewed, there are limited reports of the psychological factors influencing urethral self-insertion. One study applies psychoanalytic concepts to suggest that this behavior results from male patients developing castration anxiety and feminine identification after being deprived of a suitable male figure in their childhoods, which suggests a fixation at the urethral erotic stage. Another view attributes urethral self-insertion to cultural phenomena, as seen among the Arapesh people of Papua New Guinea, who inflict self-punishment for feelings of guilt.

Conclusion:

The motivation for urethral self-insertion appears primarily to be related to autoeroticism, in patients who often have character pathologies. This phenomenon, however, also occurs in psychotic patients, and thus further psychiatric evaluation of such patients is warranted, to treat underlying disorders and help prevent reoccurrence.

NR7-73
CORRELATION BETWEEN INTERNET ADDICTION AND PSYCHIATRIC COMORBIDITIES

Lead Author: Sree Latha Krishna Jadapalle, M.D.

SUMMARY:

Background: Problematic internet use has been suggested by some researchers' as a form of psycho physiological disorder involving tolerance; withdrawal; affective disturbances; and disruption of social relationships. It is becoming a major problem as it plays a major role in today's high-tech society where everything is computerized and the day starts by turning your computer on instead of news-papers. Despite a growing volume of work on Internet addiction, the basic epidemiology and the pathophysiology of the disorder remains unclear. Recent studies in different countries suggest that the population prevalence of Internet addiction ranges from 0.3% in the United States. Previous studies had shown that internet addiction is mostly found in young males with introverted personality; it has also been shown that the rates of exhibiting the disorder among females are increasing. The current prevalence rate of internet addiction in Korea especially in children was estimated to be 4%. Similarly in Europe it is between 1 and 9%, in Middle East it is 1 and 12% and in Asia it is between 2 and 18%. However, these estimates could not be generalized because of debatable validity of the various scales used and inconsistent information. Studies show that group therapy that is effective in managing other addictions has also shown positive results in treating Internet addiction. Objectives: To do a literature review of peer reviewed journal articles pertaining to the co-morbid psychiatric conditions associated with internet addiction. Prevalence, as well as degrees or correlation with co-morbid conditions will be assessed. Methods: Literature review of 23 peer reviewed journal articles dated from 2008 to 2011 was collected, compiled, and analyzed. The key words used for searching databases for articles pertaining to our topic included, but were not limited to "Internet addiction", "Internet dependence" and "World wide web addiction". Specific co-morbidities that shall be focused upon include, but are not limited to ADHD, suicidality, depression and anxiety. Since there is a global prevalence of internet usage, most new data shall be focused on international as well as domestic data. In addition, with the accessibility of the internet becoming so widespread, it is estimated that the incidence and prevalence of internet addiction is on the rise. Conclusion: Literature shows that there is a strong association between internet addiction and co-morbid psychiatric conditions such as Attention Deficit-Hyperactivity disorder, suicidality, anxiety, depression, as well as eating disorders. With the internet becoming more accessible in our everyday lives and the new classification of

internet addiction (DSM V) diagnosis the importance of this topic and relation to individuals at higher risk for psychiatric illness is of utmost importance.

NR7-74
SUBTHRESHOLD ANXIETY SYMPTOMS AND QUALITY OF LIFE IN PANIC DISORDER AND GENERALIZED ANXIETY DISORDER

Lead Author: Giulia Camuri
Co-Author(s): Carlotta Palazzo, Lucio Oldani, Bernardo Dell'Osso, A.Carlo Altamura

SUMMARY:
Introduction: Generalized Anxiety Disorder (GAD) and Panic Disorder (PD) are common, comorbid and disabling conditions, with high levels of functional impairment and reduced quality of life (1, 2). Given the high percentage of comorbidity among anxiety disorders and its impact on clinical outcome, it is of great interest to detect both full-blown and subthreshold presentations of co-occurring conditions (3). The present study was aimed to analyse and compare subthreshold anxiety spectrum, focusing on Social Phobia (SP) and Obsessive Compulsive-Disorder (OCD), in two groups of patients with GAD and PD.
Methods: GAD (n = 54) and PD (n = 57) patients were assessed for subthreshold SP and OCD, by means of psychometric scales and clinical evaluation. In particular, when criteria for full-blown conditions were not satisfied according to DMS-IV-TR criteria, subclinical manifestation were detected as follows: 1 < or = Liebowitz Social Anxiety Scale (LSAS) < or = 55 subthreshold SP; LSAS > 55 full-blown SP; 1 < or = Yale-Brown Obsessive Compulsive Disorder (Y-BOCS) < or =15 subthreshold OCD; YBOCS > 15 full-blown OCD. Descriptive and comparative statistical analyses were performed in order to assess the relationship between subthreshold/full-blown manifestations and quality of life, evaluated through the Social Disability Scale (SDS).
Results: subthreshold SP was encountered in more than half of subjects (59% in the total sample, 53% in GAD, 66.6% in PD). On the other hand, subclinical OCD was observed twice as frequent in PD, compared to GAD (31.5% vs 14.8%, $p<0.05$, 23.4% in the total sample). A moderate impairment in quality of life, particularly related to social interactions, was found to be associated with the presence of comorbidity, regardless to subthreshold symptoms. Nevertheless, the presence of full-blown OCD was found to be associated with significant differences in terms of social functioning, with higher impairment in GAD (GAD: SDS rel 6.2 vs PD: SDS rel 4, $p<0.05$)
Conclusion: present findings indicate a significant presence of subthreshold SP and OC symptoms in patients suffering from GAD and PD.

References:
1) Barrera TL, Norton PJ. Quality of life impairment in generalized anxiety disorder, social phobia, and panic disorder. J Anxiety Disord 2010;23:1086–1090.
2) Baldwin DS, Allgulander C, Altamura AC, et al. Manifesto for a European anxiety disorders research network. Eur Neuropsychopharmacol 2010;20:426-32.
3) Angst J, Gamma A, Baldwin DS, Ajdacic-Gross V, Rössler W. The generalized anxiety spectrum: prevalence, onset, course and outcome. Eur Arch Psychiatry Clin Neurosci 2009;259:37-45.

NR7-75
SUSTAINED RESPONSE TO KETAMINE AND ELECTROCONVULSIVE THERAPY (ECT) IN TWO PATIENTS WITH ECT RESISTANT DEPRESSION

Lead Author: Mihaela Cristina Ivan, M.D.
Co-Author(s): Ranjit C. Chacko, M.D. Professor of Psychiatry, Baylor College of Medicine, Methodist Hospital, Houston, Tx

SUMMARY:
Introduction:

Treatment resistant depression is a challenging psychiatric and public health problem. Electroconvulsive therapy (ECT) is a well-established therapy for patients with treatment resistant depression (TRD). A small proportion of TRD patients fail to respond to ECT and have limited options. Ketamine, an N-methyl-D-aspartate glutamate receptor antagonist, has shown a rapid-onset antidepressant effect in patients who failed to respond to previous treatment attempts but has failed to provide a sustained remission. Although most data are on medication-resistant major depression disorder (MDD), there are a few reports on the use of ketamine infusion in ECT-resistant MDD. Repeated infusions of ketamine seemed to have an additive effect, but the median time to relapse was still under 30 days. Using ketamine as an anesthetic agent for ECT was shown to improve depressive symptoms faster than other anesthetic agents but there was no significant difference at the end of the treatment.

Methods:

There have been no positive outcome case reports in the literature on the use of ketamine anesthesia for TRD patients who failed ECT. We present two cases of ECT-resistant MDD with a sustained remission at three months after intravenous ketamine received during acute and maintenance ECT. We used a sub anesthetic dose of ketamine, to replicate what was used in previous ketamine infusion studies and also to decrease the risk of cardiovascular side effects. The literature showed that combining ketamine and propofol resulted in less ECT adverse effects when comparing to ketamine alone.
Case # 1: 53 years old Caucasian male with history of MDD for over ten years, without any significant remission on multiple antidepressant trials, who failed to respond to eight ECT treatments. The patient's depression worsened after the eighth ECT treatment; he became suicidal and had to be hospitalized. Ketamine was added during the ninth ECT treatment with an immediate response. He completed a total of 12 ECT treatments. Ketamine was administered during the last four treatments.
Case # 2: 63 years old Caucasian female with 44 years of depression, who was referred for ECT after failing multiple antidepressants. The patient had a significant improvement in her

symptoms after eight initial ECT treatments but relapsed two months later despite ongoing psychotherapy, mood stabilizers, and antidepressants. The patient was treated with continuation ECT with intravenous ketamine for four treatments.

Results:

Both patients were in sustained remission three months later.

Discussion:

Ketamine infusion with ECT may be an unique option for a selected group of patients who failed to show response or remission to an adequate course of ECT.

NR7-76
SYNTHETIC CANNABIS: A MISSED DIFFERENTIAL DIAGNOSIS

Lead Author: Babur Hafeez Bhatti, M.D.
Co-Author(s): Dr Rohini Ravindran MD

SUMMARY:
Synthetic Cannabis also known as K2, Spice, Mr. Nice Guy, house incense, bath salts etc. have grown increasingly popular since they are legal. These drugs can often be bought in gas stations and convenience stores. Currently they remain undetected in the urine by traditional drug tests but there are metabolites in the urine.. Unfortunately at this time it is impossible to account for the myriad of different forms of synthetic cannabis but they have the propensity to cause symptoms appearing like psychosis or even delirium. This poster details two cases seen in the emergency room where the patients had both smoked synthetic cannabinoids and presented with altered mental status. Their lab work up was unremarkable and included Urine Drug Screen tests. The patients were both diagnosed with delirium and admitted to the medical service. One patient was severely psychotic from using "Mr. Nice Guy" that he jumped from the 5th floor of the hospital. The other patient was thought to be delirious and admitted to the Intensive Care Unit. He was assumed to have a likely drug overdose. In both cases, the patients were mismanaged since the physicians did not consider synthetic cannabis as a possible etiology for the symptoms. This poster will serve to provide educational details regarding when to suspect synthetic cannabis use and management options to avoid significant morbidity and mortality.

NR7-77
THE PERILS OF ABSORPTIVE VIDEOGAMING: DISSOCIATIVE EPISODES IN THREE YOUTHS PRESENTING TO PSYCHIATRIC EMERGENCY SERVICES

Lead Author: Michael Seyffert, M.D.
Co-Author(s): Henry Emerle MD, Edward Macphee, MD

SUMMARY:
The diagnosis of 'internet addiction' is a relatively new concept in psychiatry and is not yet recognized by the DSM–IV TR. A small number of patients who use the internet go on to develop internet addiction. This has prompted some mental health professionals to question internet addiction as a true addiction. Others suggest that internet addiction is a "behavioral addiction" that involves compulsive behaviors but lacks the physiological changes associated with substance addiction to include tolerance, cravings and dependence. We present a small case series of three young males (ages range from 13-20) who developed discrete dissociative episodes ranging from 30 minutes to several hours after prolonged exposure (defined as greater than 4 hours at a time) to absorptive video games. Mental health professionals need a basic understanding of internet addiction so that they can recognize it early and intervene appropriately. Furthermore, we discuss apparent co-morbidities of internet-addiction to include Attention Deficit Hyperactivity Disorder (ADHD), intermittent explosive disorder, personality disorders, autism spectrum disorder, social anxiety disorder and depression. Finally, while speculative, we posit developmental vulnerability pathways involving aberrant cortico-subcortical circuits that affect both dopamine and the amygdala.

NR7-78
THE RELATIONSHIP BETWEEN CHRONOTYPES AND COPING STYLES IN KOREAN COMMUNITY SAMPLES

Lead Author: Hee Jeong Jeong, M.D.
Co-Author(s): Eunsoo Moon, Je Min Park, Byung Dae Lee, Young Min Lee, Myung Jung Kim, Young In Chung, Yoonmi Choi

SUMMARY:
Background: Morningness-eveningness can be related to various psychiatric manifestations such as sleep, eating habit, mood, and quality of life. Chronotypes may influence coping styles to stressful situation. We aimed to compare coping styles according to three chronotypes in Korean community samples.
Method: We recruited two hundred eighty nine healthy peoples who have not experienced psychiatric illness. Chronotypes were evaluated using composite scale of morningness. Coping styles were measured by coping inventory for stressful situation. To compare coping styles among groups, we used analysis of variance (ANOVA) with the SPSS, version 18.0.
Results: There were significant differences of task-oriented and emotion-oriented coping styles among three chronotypes. The group with morningness showed more task-oriented coping styles than intermediate group ($p = .014$). The group with eveningness reported more emotional coping styles than those with morningness ($p = .001$) and intermediate group ($p = .008$).
Discussion: These results suggest that chronotypes may be associated with coping styles. Especially, eveningness may be related to maladaptive coping for stressful situation. Further study is needed to explore the underlying mechanisms about the relationship between chronotypes and coping styles.

NR7-79
THE RELATIONSHIP OF ATTACHMENT STYLE AND PARENTAL BONDING TO SUICIDALITY IN ADULT BIPOLAR PATIENTS.

Lead Author: Shaina L. Joseph, B.A.
Co-Author(s): A. Lee, D. McClure, J. Bobish, M. Foley, I. Galynker

SUMMARY:
Introduction: Current literature on mood disorders indicates that suicide is 30 times more likely to occur in bipolar patients than in the general population. Insecure attachment and impaired parental bonding have been associated between attachment, bonding, and for suicidality in bipolar patients. We hypothesized that patients with a history of suicidal ideation or attempt would report insecure attachment. We also hypothesized that participants with a history of suicidal ideation or attempt would report higher parental overprotection and lower of parental care.

Methods: Patients diagnosed with Bipolar Disorder using the Structural Clinical Interview for DSM-IV, Patient Edition (SCID-P) were recruited from the Family Center for Bipolar in New York City as part of a larger study of Family-Inclusive Treatment. At intake, participants were administered the Relationship Scales Questionnaire (RSQ) to assess attachment style, the Parental Bonding Instrument (PBI) to assess paternal and maternal bonding and the Columbia Suicide Severity Rating Scale (CSSRS) to assess history of suicidal ideation (SI) and suicidal attempt (SA).

Results: Attachment style, parental bonding, and history of suicidality (SI severity and history of SA) were assessed for 17 bipolar patients. Participants who reported the most severe SI (score of five on CSSRS intensity of ideation) scored significantly higher on RSQ Dismissing than participants who did not report severe SI ($t = 2.994$, $p = .009$). Participants who reported the most severe SI also scored significantly higher on PBI Paternal Overprotection than participants who did not report severe SI ($t = 2.494$, $p = .025$). Participants with a lifetime SA reported significantly higher scores on RSQ Fearful ($t= 2.218$, $p = .042$) and Dismissing attachment ($t = 3.325$, $p = .005$) than participants with no lifetime SA.

Discussion: In our sample of bipolar patients, we found that participants with a lifetime SA scored higher on RSQ Fearful and Dismissing attachment subscales. Participants who reported the most severe SI had higher scores the RSQ Dismissing subscale and the PBI Paternal Overprotection subscale. These findings indicate that SI and SA may be more likely to occur in bipolar patients who are insecurely attached, in particular with Fearful and Dismissing attachment styles. This may reflect a decreased likelihood of bipolar patients with Fearful and Dismissing attachment styles to seek help when in distress. Early attachment and parental bonding warrant further study as potential treatment targets in bipolar patients at risk for suicide.

Key words: Bipolar Disorder, Attachment Style, Parental Bonding, Suicidal Ideation, Suicidal Attempt.

NR7-80
THE USE OF THE GAD-7 AS A SCREENING TOOL FOR GENERALIZED ANXIETY DISORDER IN PREGNANT AND POSTPARTUM WOMEN

Lead Author: Melanie Glazer
Co-Author(s): William Simpson, B.Sc
Natalie Michalski, B.Sc Candidate
Meir Steiner, MD, Ph.D
Benicio Frey, MD, Ph.D

SUMMARY:
Background and Objective: Studies suggest that 21-24% of women suffer from at least one anxiety disorder, and approximately 5-8% suffer from Generalized Anxiety Disorder (GAD) during pregnancy and the postpartum period. GAD and depression share many symptoms making differentiation between the two disorders particularly challenging during the perinatal period when there is an increase in physical/somatic symptoms that accompany normal pregnancy. Previous studies have used various self-rated measures (ex. Edinburgh Postnatal Depression Scale (EPDS) to screen for anxiety in perinatal populations; however, no GAD-specific screening tools have been validated in perinatal populations. In the present study we investigated the use of Generalized Anxiety Disorder 7-item (GAD-7) scale as a screening tool for GAD in pregnant and postpartum women.

Methods: One hundred and fifty nine women (mean age= 31.1 y.o.) referred to a women's mental health program for assessment/treatment during pregnancy (N=103) or postpartum (N=56) were studied. All women completed the GAD-7 on the day of their first assessment, and the sensitivity and specificity of the GAD-7 as a screening tool for GAD were calculated against clinical diagnosis provided by experienced psychiatrists.

Results: A total of 23 women (14.5%) were diagnosed with GAD. A cut-off score of 12 out of 21 yielded the best fitting model with a sensitivity of 68.1%, specificity of 67.2%, positive predictive value of 47%, and negative predictive value of 83%. When we evaluated the use of the GAD-7 as a screening tool for any anxiety disorders (except PTSD) the optimal cut-off score was 11, yielding a sensitivity of 61.8% and specificity of 56.2%. Inclusion of the impairment item of the GAD-7 (? moderate impairment) did not improve the psychometric properties of the screening tool for GAD alone, or for any anxiety disorder.

Conclusions: The psychometric properties of the GAD-7 in this perinatal population indicate that it is, at best, a fair screening tool for GAD. While the sensitivity and specificity obtained in our sample are comparable to those seen in the general population (60.9% and 87.6%, respectively), development and validation of screening tools for GAD in perinatal women is still warranted.

NR7-81
THERAPEUTIC FACTORS IN PHARMACOTHERAPY VS. PSYCHOTHERAPY APPOINTMENTS

Lead Author: Ragavan Mahadevan, M.D.
Co-Author(s): Nicholas Breitborde, PhD
Nida Syed, MD

SUMMARY:

Past research has been done into the common therapeutic factors (particularly therapeutic alliance) that lead to effective psychotherapy. Modern psychiatric practice has steadily moved from longer appointments with psychotherapy as well as possibly pharmacotherapy to shorter appointments with primarily pharmacotherapy. With research showing that improved therapeutic alliance has an effect on overall clinical outcomes, there is the question of whether this change in the practice structure might have an impact on the therapeutic alliance and therefore clinical outcomes. This study examines whether there are differences in the alliance, as measured by patients, depending on where they are on the spectrum of receiving pharmacotherapy or psychotherapy and the amount of time in each session.

This study utilizes questionnaires filled out by adult patients with various diagnoses undergoing individual treatment in a psychiatric outpatient clinic. The questionnaire asks for information about the treatment length (number of minutes for each appointment as well as total duration in months of treatment) and type of session (whether only psychotherapy, only pharmacotherapy, or somewhere in between). It also utilizes 3 previously validated scales to assess the therapeutic alliance as assessed by the patient. Afterwards, we examined the association between these measures of therapeutic alliance and the aspects of treatment mentioned above using analysis of variance. Our results indicated no statistical association between any aspects of treatment and the quality of alliance. These results would indicate that patients develop similar levels of alliance with their provider regardless of how much of the appointment is dedicated to psychotherapy vs. pharmacotherapy or how much time is spent with the patient in each appointment.

NR7-82
USING WEB-BASED TECHNOLOGY TO IMPROVE RESIDENT EDUCATION: A NOVEL MODEL FOR PSYCHIATRY BOARD REVIEW

Lead Author: Kalya Vardi, M.D.
Co-Author(s): Jane Eisen, MD and Robert Boland, MD

SUMMARY:

Introduction: In many ways, advances in computer and internet technology have not only permeated medical training, they have become common place; examples include email, PowerPoint, online publications and the electronic medical record. Nonetheless, a PubMed search reveals little data about whether web-based tools improve resident education. Moreover, few publications describe new strategies for capitalizing on existing and emerging technologies.

Objective: In this study, we propose and test a novel teaching model that uses remote, web-based assessments to identify knowledge gaps among psychiatry residents, in order to address those gaps in subsequent, in-person seminars. Our goal was to develop a PGY-4 board review course that is tailored to each resident cohort.

Methods: We designed and implemented a pilot course that combines remote, web-based assessments with in-person seminars. For each of 6 modules, PGY-4 residents completed a pre-test online assembled from past PRITE and FOCUS Self-Assessment questions. We excluded questions addressing DSM IV criteria, definitions of terms and other basic concepts because we felt confident that all PGY-4 residents had already demonstrated competency in these areas based on prior evaluations. We published our assessments in Google Forms, which facilitated scoring and enabled us to automatically and anonymously send residents feedback. The problems with the fewest correct answers were targeted for in-depth review. Each resident prepared for the companion seminar by critically reading an assigned journal article that provided a current, evidence-based explanation to one of the targeted questions. The residents were then expected to convey key concepts from their reading to the group. A faculty member facilitated discussion about the quality of the evidence and the implications for clinical practice. We hypothesized that our web-based assessments could identify areas of weakness in the group's knowledge base, justifying in-depth review. To test this outcome, we defined a "knowledge gap" as a concept tested in a problem that 50% or more residents answered incorrectly. Secondary outcomes included feasibility and resident satisfaction.

Results: The mean pre-test scores were 77.6%, 77.8% and 67.6% for modules 1, 2 and 3, respectively. All together we identified 18 knowledge gaps. The course was low-cost and easy to implement; after initial set-up, we could quickly publish new assessments to the web. Thus far, the resident feedback has been overwhelmingly positive. In particular, residents were enthusiastic that the online system is confidential; as a result, they felt comfortable taking the pre-test without consulting references.

Conclusion: Using web-based technology, we were able to identify knowledge gaps among senior-level psychiatry residents and target in-person board review seminars to high-yield topics.

NR7-83
VALPROIC ACID AS AN ADJUNCT TREATMENT FOR HYPERACTIVE DELIRIUM: CASE SERIES AND LITERATURE REVIEW

Lead Author: José R. Maldonado, M.D.
Co-Author(s): Sermsak Lolak, MD; Anne Katherine Miller, BA; Jose R Maldonado, MD

SUMMARY:

Introduction:

Delirium is the most often encountered psychiatric diagnosis in the general hospital, with incidence up to 80% in the intensive care unit (ICU) (Maldonado JR, Crit Care Clin 2008). Antipsychotics are the first-line treatment, but there can be limitations to their use - prolonged QTc leading to abnormal heart rhythms, extrapyramidal side effects, lack of efficacy. Valproic acid (VPA), an anticonvulsant with gabaergic and anti-glutamatergic mechanisms of action, can serve as an adjunct treatment, but the data on VPA in delirium consists of no randomized control studies and one case series of 6 patients (Bourgeois JA et al, J Neuropsychiatry Clin Neurosci. 2005). Yet when carefully chosen, VPA can be an effective and well-tolerated option, especially given it can be administered both by mouth and via intravenous routes. In this poster, we present patients treated by Psychosomatic Medicine (PM) at Stanford for hyperactive delirium with augmentation by VPA. We review current literature on the use of VPA as well as important considerations in its side effect profile and monitoring.
Results:
There were 16 identified patients with hyperactive delirium treated by Stanford PM service 8/1/2011 through 8/31/2012 with augmentation of VPA. Stanford IRB approved this study. Data on these patients were collected via retrospective chart review. 14 patients were males. Average age was 50.8 years with the range of 25-88. Most were managed in medical or surgical ICUs. In all, but one, VPA was an adjunct to antipsychotic treatment. All of the subjects improved in their mental status and agitation. In the case of intubated patients, addition of VPA frequently allowed prompt extubation. No significant side effects were identified, besides decreased number of platelets in few subjects and bleeding in one very ill patient with unclear contribution of VPA.

Discussion: VPA can be an important agent in treatment of hyperactive delirium. This case series adds to extremely bare current data on VPA in delirium, although it is limited by virtue of being a retrospective chart review of the active treatment, and not a randomized placebo control trial. Before addition of VPA, one must ensure that liver function is appropriate, patient is not thrombocytopenic, and any woman of child bearing age is not pregnant. Liver function and platelets must be carefully followed during its administration. In addition, VPA level and efficacy can be decreased by other medications not infrequently co-administered in this ill patient population. One important consideration is carbapenems, as was encountered in 2 out 12 of our patients.
In conclusion, VPA can be especially useful in patients with escalating doses of antipsychotics without improvement, side effects from and contraindications to antipsychotic use, and in cases of delirium tremens or significant agitation. Randomized control studies are needed to establish the role of VPA in delirium treatment.

NR7-84
VOXEL BASED MORPHOMETRY VERSUS REGION OF INTEREST: COMPARISON OF TWO METHODS FOR ANALYZING WHITE MATTER ABNORMALITIES IN DEPRESSION FROM INDIA

Lead Author: Shruti Srivastava, M.B.B.S.
Co-Author(s): Manjeet Singh Bhatia, Reema Kumari, Satish Kumar Bhargava

SUMMARY:
Recent studies have used voxel-based morphometry (VBM) , an automated whole-brain magnetic resonance image measurement technique to explore microstructural integrity of whole-brain white matter using diffusion tensor study(DTI) in first- episode, treatment- naïve young adults with major depressive disorder(MDD). Some investigators have instead used “region of interest” (ROI) to calculate the Fractional anisotropy (FA) values of fronto-subcortical regions of brain in depression. We hypothesized that VBM analyses of same data would complement ROI findings. The aim of the current study was to compare white matter abnormalities using both the above mentioned methods in first episode treatment- naïve fifteen patients of MDD and fifteen age- and gender-matched healthy controls in a 3 Tesla magnetic resonance scanner. DTI and localizing anatomic data were acquired. Both the methods reported lowered FA values in Right superior longitudinal fasciculus($p<0.001$) and Right middle frontal white matter ($p<0.001$)as compared to controls. Additionally, ROI method uncovered significantly lowered FA value in the hippocampus (p 0.006), but not detected using VBM. The principal explanation for these differences may be the methodological differences between the two methods. Although VBM is rapid and fully automated , it is not a replacement for manual ROI-based analyses. Both methods provide different information and hence, should be used together. Key Words: DTI, depression, Anisotropy, Magnetic resonance imaging

POSTER SESSION 8
ADHD, BIPOLAR, PERSONALITY, AND RELATED DISORDERS

NR8-01
40-WEEK, DOUBLE-BLIND, PLACEBO-CONTROLLED, EFFICACY AND SAFETY STUDY OF METHYLPHENIDATE HYDROCHLORIDE MODIFIED RELEASE (MPH-LA) IN ADULT ADHD

Lead Author: Michael Huss, M.D.
Co-Author(s): Y. Ginsberg
Department of Clinical Neuroscience, Karolinska Institutet, Stockholm, Sweden
A. Philipsen
Department. of Psychiatry and Psychotherapy, University Medical Center, Freiburg,
Germany
T. Tvedten
Centre for Therapy and Supervision, Skien, Norway
T. Arngrim
Private Practice, Aarhus, Denmark
M. Greenbaum
Capstone Clinical Research, Libertyville, IL, USA
J Steiert
Summit Research Network, (Seattle) LLC, WA, USA
K. Carter

Novartis Pharmaceuticals Corporation, East Hanover, NJ, USA
CW. Chen
Novartis Pharmaceuticals Corporation, East Hanover, NJ, USA
V. Kumar
Novartis Pharmaceuticals Corporation, East Hanover, NJ, USA

SUMMARY:
Introduction: Although recent epidemiology studies report prevalence of adult Attention Deficit Hyperactivity Disorder (ADHD) to be almost 4%, treatment options remain limited.

Objectives:
To confirm the clinically effective and safe dosage range of MPH-LA in adult ADHD patients
To evaluate the maintenance of effect over six months for all doses of MPH-LA in adult ADHD patients
To investigate the safety and tolerability profile of MPH-LA

Methods: The study consisted of 3 treatment periods: a 9-week double-blind, placebo-controlled period (3-week titration period, 6 weeks fixed dose) in which 725 adults with ADHD were randomized to MPH-LA 40, 60 or 80 mg/day or placebo (Period 1- TP1) to confirm the clinically effective and safe dose range of MPH-LA, a 5-week period with re-titration to optimal dose (Period 2- TP2), and a 6-month double-blind randomized placebo-controlled withdrawal period (Period 3- TP3) to evaluate the maintenance of the optimal dose effect of TP2. The three primary endpoints were change in DSM-IV ADHD-RS and Sheehan Disability Scale (SDS) total score from baseline to end of TP1 (week 9) and percentage of treatment failures during TP3. Evaluation of the change from baseline to end of TP1 in DSM-IV ADHD RS and SDS total scores was performed using an analysis of covariance (ANCOVA) model with treatment group and center as factors, and baseline total score as covariate. A logistic regression analysis using treatment as factor, and baseline DSM IV ADHD RS total scores for TP1 and TP3 as covariates was performed for percentage of treatment failures during TP3.

Results: Improvements from baseline in DSM-IV ADHD RS and SDS total scores were significantly greater for all MPH-LA dose levels vs placebo at end of TP1 in the composite hypothesis testing applying gatekeeping procedure. LS mean improvements from baseline for DSM-IV ADHD RS were 15.45, 14.71 and 16.36 for MPH-LA 40, 60 and 80 mg vs 9.35 for placebo. The corresponding LS-mean differences [95%CI] vs placebo were 6.10 [3.68, 8.53], 5.36 [2.92, 7.79] and 7.01 [4.59, 9.42] for MPH-LA 40, 60 and 80 mg ($p<0.0001$ for all comparisons). LS mean improvements from baseline on SDS scale were: 5.89 4.90 and 6.47 for 40, 60 and 80 mg MPH-LA vs 3,03 for placebo, LS-mean differences in SDS [95%CI] vs placebo were 2.86 [1.33, 4.39; ($p=0.0003$)], 1.87 [0.33, 3.41; ($p=0.0176$)] and 3.44 [1.91, 4.97; ($p<0.0001$)] for MPH-LA 40, 60, and 80 mg ($p<0.0001$). In TP3, patients treated with MPH-LA had significantly lower treatment failure rates (21.3%) compared to placebo (49.6%; odds-ratio [95%CI]=0.3 [0.2, 0.4] for MPH-LA vs placebo; $p<0.0001$). The safety results were consistent with the established safety profile for MPH-LA in children.

Conclusions: MPH-LA administered at 40, 60 and 80 mg/day demonstrated superior ADHD symptom control in adults and reduction in functional impairment compared to placebo. The effect was maintained over 6 months. No unexpected adverse events were observed.

NR8-02
A POST HOC ANALYSIS OF EFFICACY AND TOLERABILITY OF LURASIDONE ADJUNCTIVE TO EITHER LITHIUM OR VALPROATE FOR THE TREATMENT OF BIPOLAR I DEPRESSION

Lead Author: Joseph R. Calabrese, M.D.
Co-Author(s): Terence A Ketter, MD, Department of Psychiatry & Behavioral Sciences, Stanford University School of Medicine, Stanford, CA; Josephine Cucchiaro, PhD, Sunovion Pharmaceuticals Inc., Fort Lee, NJ and Marlborough, MA; Andrei Pikalov, MD, PhD, Sunovion Pharmaceuticals Inc., Fort Lee, NJ and Marlborough, MA; Jane Xu, PhD, Sunovion Pharmaceuticals Inc., Fort Lee, NJ and Marlborough, MA; Hans Kroger, MPH MS, Sunovion Pharmaceuticals Inc., Fort Lee, NJ and Marlborough, MA; Antony Loebel, MD, Sunovion Pharmaceuticals Inc., Fort Lee, NJ and Marlborough, MA

SUMMARY:
Introduction: Bipolar depression is a chronic, disabling illness with few approved treatments available, and none approved for the common treatment practice of adjunctive use with mood stabilizers. PREVAIL 1 evaluated the efficacy and safety of lurasidone (LUR) 20-120 mg/d adjunctive to either lithium (Li) or valproate (VPA) in patients with bipolar I depression. This post hoc analysis compared the efficacy and tolerability of adjunctive LUR vs PBO by respective mood stabilizer use.
Methods: In this randomized, DB, PBO-controlled, 6-week study, patients with bipolar I, nonpsychotic major depression, with or without rapid cycling, (DSM-IV-TR), received flexibly dosed LUR 20-120 mg/d (N=179) or PBO (N=161) adjunctive to Li or VPA (therapeutic doses/levels for ?4 weeks prior to study entry, maintained over the 6-week study duration). Change from baseline in MADRS and Clinical Global Impressions Bipolar, Severity of Illness depression (CGI-BP-S) total scores were analyzed by MMRM. MADRS response (?50% reduction) and remission (MADRS ?8) were analyzed by logistic regression. Safety and tolerability were monitored throughout the study.
Results: Baseline MADRS scores were similar for the Li and VPA subgroups (range 30.5-31.0). In the overall population, statistically significant improvement from baseline to 6-week end point was observed for LUR vs PBO in MADRS score (-17.1 vs -13.5; $p=0.005$, Cohen's $d=0.34$) and in CGI-BP-S score (-1.96 vs -1.51; $p=0.003$, Cohen's $d=0.36$). A similar pattern of MADRS score change was observed when LUR vs PBO was added adjunctively to Li (-18.3 vs -14.2; $p=0.025$,

Cohen's d=0.38) and to VPA (-17.2 vs -14.0, p=0.07, Cohen's d=0.29), and for CGI-BP-S score change (-2.0 vs -1.56, p=0.055, Cohen's d=0.33, Li subgroup; -1.96 vs -1.51, p=0.031, Cohen's d=0.34, VPA subgroup). MADRS responder rates were statistically significant for LUR vs PBO in the overall population (57% vs 42%; p=0.008) with a similar pattern of change in MADRS when added to Li (61% vs 47%, p=0.087) and to VPA (53% vs 38%, p=0.050). Significantly higher MADRS remission (MADRS ?8) rates were observed for LUR vs PBO in the overall population (40% vs 22%, p<0.001, NNT=6), and when added to Li (47% vs 26%, p=0.007, NNT=5), and to VPA (34% vs 18%, p=0.023, NNT=7). LUR treatment was generally well tolerated; the most common AEs (?5% and greater than PBO) for LUR adjunctive to Li were nausea, tremor and akathisia, and nausea and somnolence for LUR adjunctive to VPA. For Li subjects, akathisia was reported by 10.8% for LUR vs 8% for PBO. For VPA subjects, akathisia was reported by 4.4% for LUR vs 1.1% for PBO. Discontinuations due to AEs were similar for LUR vs PBO adjunctive to Li (4.3% vs 9.1%) and adjunctive to VPA (7.8% vs 6.8%).

Conclusions: In this post hoc analysis, adjunctive LUR in bipolar I depression was similarly effective and well tolerated when added to either Li or VPA.

Sponsored by Sunovion Pharmaceuticals Inc.

NR8-03
EFFICACY AND SAFETY OF LOW- AND HIGH-DOSE CARIPRAZINE IN PATIENTS WITH ACUTE MANIA ASSOCIATED WITH BIPOLAR I DISORDER

Lead Author: Joseph R. Calabrese, M.D.
Co-Author(s): Paul E. Keck, Jr.
Kaifeng Lu
István Laszlovszky
Anju Starace
György Németh
Suresh Durgam

SUMMARY:

Objective: Cariprazine (CAR) is an orally active and potent dopamine D3/D2 receptor partial agonist with preferential binding to D3 receptors in development for the treatment of schizophrenia and bipolar mania. CAR has demonstrated efficacy in patients with acute mania in Phase II (NCT00488618) and Phase III (NCT01058096) studies. This Phase III trial (NCT01058668) evaluated the efficacy, safety, and tolerability of low- and high-dose CAR in patients with acute mania.

Methods: This was a multicenter, double-blind placebo (PBO)-controlled, parallel-group, fixed/flexible-dose study of 6-weeks' duration (up to 7-day no-drug washout, 3-week double-blind treatment, 2-week safety follow-up). Patients meeting DSM-IV-TR criteria for bipolar I disorder, acute manic or mixed episode, and Young Mania Rating Scale (YMRS) score ?20 were randomized (1:1:1) to CAR 3-6 mg/d, CAR 6-12 mg/d, or PBO for 3-weeks of double-blind treatment. Patients were hospitalized during screening and for ?14 days of double-blind treatment. Primary efficacy: YMRS total score change from baseline to the end of Week 3 analyzed using a mixed-effects model of repeated measures (MMRM) approach on the intent-to-treat (ITT) population; secondary efficacy: Clinical Global Impressions-Severity (CGI-S). Safety evaluations: adverse events (AEs), clinical laboratory values, vital signs, ECGs, and extrapyramidal symptom (EPS) scales.

Results: A total of 497 patients were randomized and received at least 1 dose of double-blind treatment (PBO, 161; CAR 3-6 mg/d, 167; CAR 6-12 mg/d, 169) (Safety Population); 76%, 77%, and 70% of patients, respectively, completed the study. Baseline YMRS scores were similar among groups (PBO, 32.6; CAR 3-6 mg/d, 33.2; CAR 6-12 mg/d, 32.9). Change from baseline to Week 3 was statistically greater for both CAR groups versus PBO (MMRM) on YMRS (LSMD: CAR 3-6 mg/d=-6.1; CAR 6-12 mg/d=-5.9; P<.001 [both]) and CGI-S (LSMD: CAR 3-6 mg/d=-0.6, cariprazine 6-12 mg/d=-0.6; P<.001 [both]). Significantly more CAR patients met YMRS response (P<.001 [both]) and remission (P<.01 [both]) criteria. Treatment-emergent AEs (TEAEs) occurred in 61%, 78%, and 75% of PBO, CAR 3-6 mg/d, and CAR 6-12 mg/d groups, respectively. The most common AEs (?5% and twice the rate of PBO) were akathisia (both CAR groups), and nausea, constipation, and tremor (CAR 6-12 mg/d only). Significantly more CAR 6-12 mg/d patients versus PBO discontinued due to AEs (15% vs 5%); 9% of CAR 3-6 mg/d discontinued. Cariprazine was associated with greater incidence of EPS-related TEAEs than placebo (PBO, 14%; CAR 3-6 mg/d, 36%; CAR 6-12 mg/d, 34%).

Conclusions: Results of this study demonstrated that both low- and high-dose CAR was effective in the treatment of acute mania associated with bipolar I disorder. CAR was generally well tolerated in this group of patients, although the incidence of EPS was greater for cariprazine than placebo.

This study was funded by Forest Laboratories, Inc. and Gedeon Richter Plc.

NR8-04
A RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED STUDY OF ZIPRASIDONE IN BIPOLAR DISORDER WTH CO-OCCURRING PANIC OR GENERALIZED ANXIETY DISORDER

Lead Author: Trisha Suppes, M.D., Ph.D.
Co-Author(s): Susan L. McElroy, M.D., David V. Sheehan, M.D., M.B.A., Rosario B Hidalgo, M.D., Victoria E. Cosgrove, Ph.D., Iola S. Gwizdowski, M.S., M.A., Natalie S. Feldman

SUMMARY:

Objective: Bipolar disorder (BD) often co-occurs with anxiety disorders, and can have significant effects on an individual's course of illness and quality of life. Second-generation antipsychotic medications (SGAs) could be useful for this patient population. This study examined the efficacy of ziprasidone in the treatment of patients with co-occurring BD and anxiety symptoms.

Method: This three-site, randomized, double-blind, placebo-controlled, parallel group, 8-week trial of ziprasidone monotherapy examined 49 subjects with BD (BDI = 34) and lifetime panic disorder (with or without agoraphobia) or generalized anxiety disorder (GAD) experiencing at least moderately severe anxiety symptoms at entrance into the study. Primary outcome measures were the CGI-21 Anxiety and the Sheehan Disability Scale (SDS), with secondary measures monitoring anxiety and mood symptoms.
Results: Last Observation Carried Forward analyses demonstrated that patients in the ziprasidone group did not improve significantly more than those in the placebo group on the CGI-21 Anxiety ($F(1)=0.34$; $p=.564$) or SDS ($F(1)=0.26$; $p=.611$). Secondary analysis using Hierarchical linear modeling found similar results (CGI-21 Anxiety: $F(1)1.67$; $P=.098$ and SDS: $F(1)=0.70$; $p=.408$). Regardless of group, time in the study was associated with significant decrease in anxiety ($F(1)=11.59$; $p<.001$) and total disability ($F(1)=26.16$; $p<.001$). Patients in the ziprasidone group showed a greater increase in abnormal involuntary movements. 81.8% (n=9) of the subjects who withdrew from the study due to adverse events, serious adverse events, or side effects were in the ziprasidone group.
Conclusion: Overall, the results suggest that ziprasidone monotherapy is not more effective than placebo in the short term treatment of anxiety symptoms or psychosocial impairment in patients with bipolar disorder and lifetime history of panic disorder and/or generalized anxiety disorder and experiencing current at least moderately severe anxiety symptoms. Ziprasidone was associated with a worse side effect profile than placebo.
Clinicaltrials.gov registration number NCT01172652.

Source of Funding – This research was supported by Pfizer, Inc. (WS495334).

NR8-05
MAJOR DEPRESSIVE DISORDER WITH MIXED FEATURES: INTERIM BASELINE CHARACTERISTICS OF SUBJECTS IN A DOUBLE-BLIND, PLACEBO-CONTROLLED TRIAL OF LURASIDONE

Lead Author: Trisha Suppes, M.D., Ph.D.
Co-Author(s): J. Cucchiaro, A. Pikalov, Y. Mao, S.D. Targum, A. Loebel

SUMMARY:

Introduction: The proposed DSM-5 criteria define major depressive disorder with mixed features (MDD-MF) as one or more major depressive episodes that are associated with at least 3 of 7 manic or hypomanic symptoms, but not meeting full criteria for mania. The aim of this analysis was to evaluate the baseline characteristics of subjects with MDD-MF enrolled in an ongoing clinical trial of lurasidone.
Methods: Subjects enrolled met DSM-IV-TR criteria for MDD, had a Montgomery-Asberg Depression Rating Scale (MADRS) score ?26, and met either two or three of the proposed DSM-5 manic symptom criteria for a mixed state. Subjects were excluded if they had a lifetime history of bipolar I manic or mixed manic episode. Eligible subjects were randomized to 6 weeks of double-blind treatment with flexible doses of lurasidone (20-60 mg/d) or placebo. Baseline assessments included the MADRS, the Young Mania Rating Scale (YMRS), Hamilton Rating Scale for Anxiety (HAM-A), and the Sheehan Disability Scale (SDS).
Results: The current baseline sample consists of 50 subjects, out of a planned total of 200, with a mean age of 42.4 years. The majority of subjects were female (72.0%), Caucasian (58.0%), and reported a mean of 6.1 previous major depressive episodes (MDE), with a mean of 4.6 MDEs associated with mixed features. The mean duration of the current MDE was 4.6 months. Among first degree relatives, subjects reported that the most frequent maternal psychiatric disorders were depression (75.0%), bipolar disorder (15.0%), and anxiety disorder (15.0%); and the most frequent paternal psychiatric disorders were depression (35.0%) alcohol dependence/abuse (35.0%), substance abuse (10.0%), and schizophrenia (10.0%). Mean baseline MADRS total score was 33.2, mean YMRS total score was 12.7, and mean HAM-A total score was 16.6. Two current manic symptoms were reported by 62.0% of subjects, and 3 manic symptoms were reported by 38.0% of subjects. The most frequent manic symptoms were flight of ideas/racing thoughts (80.0%), more talkative/pressured speech (68.0%), increased/excessive pleasurable activities (30.0%), elevated mood (20.0%), increase in energy/goal-directed activity (18.0%), and decreased need for sleep (16.0%). Non-specific manic symptoms, not included as core MDD-MF criteria, were also common at baseline and consisted of distractibility (74.0%), irritable mood (70.0%), and psychomotor agitation (52.0%). The mean baseline SDS total score was 19.1 (n=29 subjects) reflecting a significant degree of functional impairment in MDD-MF subjects.
Conclusions: Both the presentation and the psychiatric/treatment history of the patients enrolled to-date support the proposed DSM-5 diagnosis of MDD with mixed features as a nosological entity. Randomized, placebo-controlled studies such as the ongoing trial with lurasidone are needed to evaluate, and help establish the safety and efficacy of treatments for this population.
Sponsored by Sunovion Pharmaceuticals, Inc.

NR8-06
AN ONLINE INTERVENTION FOR BIPOLAR DISORDER: MOODSWINGS 2.0

Lead Author: Victoria Cosgrove, Ph.D.
Co-Author(s): Sue Lauder, M.Psych
Andrea Chester, Ph.D
David Castle, Ph.D
Emma Gilddon, B.AppSci
Lesley Berk, M.A.
Michael Berk, PhD
Iola Gwizdowski, M.A.
E. Grace Fischer, B.A.
Natalie Feldman, B.A.
Trisha Suppes, M.D., Ph.D.

SUMMARY:

Background: The application of adjunctive psychosocial

interventions in bipolar disorder is often limited in real world application due to cost and access constraints. MoodSwings 1.0 was a pilot online self-help program for people with bipolar disorder adapted from a validated group-based face-to-face program. MoodSwings 1.0 compared the online delivery of MoodSwings (interactive tools plus psychoeducation) with psychoeducation alone, using the same platform and both with access to small group moderated discussion boards. Participants diagnosed with bipolar I or II disorder (n = 156) were randomized to either online programs of MoodSwings 1.0 or psychoeducation. Improvement in both groups showed baseline to endpoint reductions in mood symptoms and improvements in quality of life, functionality, and medication adherence. MoodSwings was noted to be superior to psychoeducation in improvement on symptoms of mania at 12 months (p=0.02). MoodSwings 2.0 was developed in response to these promising findings.

Method: Participants diagnosed with bipolar I, II or NOS will be recruited. MoodSwings 2.0 is a 2-site, 3-arm randomized parallel group stepped design (exposure to moderated peer discussion board only, discussion board only, discussion board plus psychoeducation or discussion board, psychoeduation, and online interactive psychosocial tools. The collaborative sites (Palo Alto, CA, and Melbourne, Australia) will enroll 300 participants internationally. Outcomes will be assessed at quarterly intervals via phone interview with raters blind to group assignment as well as online self report.

Results and discussion: The primary outcome of MoodSwings 2.0 will be the change in depressive symptoms over 12 months, assessing if there is additive benefit to the three components (education, discussion board, and interactive psychosocial tools) on improvement. Exploratory aims include symptoms of elevated mood, health services utilization, evidence of relapse (time to intervention), function, quality of life and medication adherence.

Conclusion and future directions: Experience of the MoodSwings 1.0 trial study suggests that internet-based psychosocial interventions have potential in the management of bipolar disorder. Online enhancements in MoodSwings 2.0 as well as a larger sample size including an attention control (discussion board only arm) may lead to a greater understanding of these interventions as an adjunctive treatment tool.

NR8-07
AN OPEN-LABEL, MULTICENTER CLINICAL TRIAL FOR TREATMENT OF TICS IN ADULTS WITH TOURETTE'S DISORDER USING DOPAMINE D1/D5 RECEPTOR ANTAGONIST ECOPIPAM

Lead Author: Cathy L. Budman, M.D.
Co-Author(s): Donald Gilbert, MD, MS, Harvey Singer, MD, Roger Kurlan, MD, Rudolf Kwan, MD, Sana Shad, MA, Richard Chipkin, PhD.

SUMMARY:

Tourette's Disorder (TD) is characterized by the childhood onset of repetitive movements and phonations ("tics"). Tics may improve but often persist into adulthood and are associated with mild to moderate functional impairment that positively correlates with tic severity (Conelea et al. 2011). Tic suppression using alpha-2A adrenergic receptor agonists or dopamine D2 receptor antagonists is incomplete and frequently accompanied by unacceptable side effects. Planned interim findings from an 8-week, open-label multi-site clinical trial using ecopipam, a potent dopamine D1/D5 antagonist, for treatment of tics in adults with TD suggest that this agent is well-tolerated and appears to reduce tic severity and associated comorbidity.

Adults with TD ages 18-65 years were recruited at multiple specialty centers for participation in an 8-week, open-label, nonrandomized clinical trial exploring the safety and efficacy of oral ecopipam. Following confirmation of TD diagnosis and comprehensive screening, 15 study subjects who met all inclusion/exclusion criteria were enrolled. Subjects initially received 50 mg daily ecopipam (weeks 1-2) and daily dosage was increased to 100 mg ecopipam (weeks 3-8).Primary outcome measures to assess tic reduction and illness severity included the Yale Global Tic Severity Scale (YGTSS), Premonitory Urge for Tics Scale (PUTS-1) and Clinician Global Impression–Improvement and Severity Scales (CGI). Adult Attention Deficit Hyperactivity Disorder (ADHD) Self-report Symptom Checklist (ASRS), Yale-Brown Obsessive Compulsive Scale (Y-BOCS), and Hamilton Depression Scale (HAM-D) were employed to assess secondary outcome measures of effects on psychiatric comorbidity. Weight, comprehensive metabolic studies, 12-lead electrocardiogram, and side effects were monitored.

An interim analysis of data collected from 15 study subjects, mean age 34 years (range 19-60 years) enrolled; 80% (12 Caucasian males) completed the 8 week trial. 20% dropped out due to lack of efficacy or reported side effects. Mean Total Tic Severity Score was 30.9 (SD + 8.2) at baseline and 25.4 (+ 9.5) at 8 weeks (two-tailed paired t14 = 3.9; p=.002). Mean total YGTSS was 58.7 (+ 17.2) at baseline and 48.1(+ 22.5) at final visit (two-tailed paired t14-2.4; p=.03). The primary endpoint (YGTSS) showed a highly statistically significant treatment effect (p<0.001) reported on all four measures including motor tic, vocal tic, total tic and global severity scores. Although not statistically significant, there was a trend for ADHD scores to improve. No significant changes were observed in premonitory, obsessive compulsive, or depressive symptoms. No weight gain was associated with treatment. The most frequently reported adverse events included fatigue/sedation, nausea, sleeplessness, restlessness, loss of appetite.

Supported by funding from Psyadon Pharmaceuticals.

NR8-08
ANALYSIS OF ARIPIPRAZOLE CLINICAL DATA USING THE PROPOSED DSM-5 DIAGNOSTIC CRITERIA FOR MIXED FEATURES IN BIPOLAR DISORDER

Lead Author: Roger S. McIntyre, M.D.

Co-Author(s): Maia Miguelez, PhD; Bristol-Myers Squibb, Saint Laurent, Quebec, Canada, M5C 2R7
Sabrina Vogel Marler, MS; Bristol-Myers Squibb, Wallingford, CT, USA, 06492
Ross A. Baker, PhD, MBA; Otsuka Pharmaceutical Development & Commercialization, Inc. Princeton, NJ, USA, 08540
Zia Rahman, PhD, MBA; Bristol-Myers Squibb, Plainsboro, NJ, USA, 08540

SUMMARY:
Background: A revised Diagnostic and Statistical Manual of Mental Disorders (DSM-V) is anticipated for release this year. One planned change is the addition of a "mixed specifier" to the diagnoses of bipolar mania (BPM) and bipolar depression (BPD) if 3 or more features from the opposite pole are present. This analysis of the large aripiprazole (ARI) patient database assessed what proportion of patients (pts) currently categorized as having BPM or BPD fulfill the new DSM-V definition of mixed specifier and explored how ARI affects outcomes.
Methods: Six 3-week trials of ARI for BPM were pooled, as were 2 for BPD. Pts in the BPM studies were treated with ARI, haloperidol (HAL), lithium (LI), or placebo (PLB); in the BPD studies, pts were treated with ARI or PLB.
Results: 34% of pts in the BPM studies and 17% of pts in the BPD studies met DSM-V criterion of "mixedness". "Mixed patients" were 676/2006 (324/919 ARI, 45/324 HAL, 66/155 LI, 241/608 PLB) in BPM studies, and 118/690 (50/337 ARI, 68/353 PLB) in the BPD studies. There were differences between "mixed" and "non-mixed" pts in their responses. In the BPM studies, adjusted mean changes from baseline in Young Mania Rating Scale (YMRS) total score at Week 3 (LOCF) for those who met the new criteria were: -11.3, ARI; -11.8, HAL; -11.6, LI; & -8.7 for PLB. Differences between ARI vs PLB, but not between HAL or LI vs PLB, were significant for those who met the new criteria. For those who did not meet the new criteria, differences were significant between ARI vs PLB and between HAL vs PLB. Adjusted mean changes from baseline in MADRS total score at Week 3 (LOCF) for those who met the new criterion were: -5.3, ARI; -5.7, HAL; -4.3, LI; & -4.1 for PLB; differences between active drugs and PLB were not significant in both those who met and did not meet the new criterion. In the BPD studies, adjusted mean changes from baseline in YMRS total score at Week 3 (LOCF) for those who met the new criteria were -0.97 for ARI & 0.52 for PLB (difference not significant). Adjusted mean changes from baseline in MADRS total score at Week 3 (LOCF) for those who met the new criteria were -9.5 for ARI & -8.5 for PLB (difference not significant); for pts who did not meet the new criteria, the difference between ARI and PLB was significant.
Discussion: About a third of pts in the BPM studies and almost a fifth in the BPD studies met the new DSM-V criteria of mixed specifier. In the BPM studies, differences in YMRS change from baseline were seen between pts who did and did not meet the new criteria. ARI was more effective vs PLB, while HAL and LI were not more effective than PLB in pts defined by the new DSM-V criteria; in pts who did not meet the mixed specifier criteria, both ARI and HAL vs PLB were more effective than LI vs PLB. These results suggest the clinical pertinence of mixed features as a mitigating factor in choosing treatment. Bristol-Myers Squibb and Otsuka Pharmaceutical Co., Ltd. supported this study.

NR8-09
DSM-5 MANIC EPISODES WITH DEPRESSIVE FEATURES: RESULTS FROM POST HOC ANALYSES OF ASENAPINE CLINICAL TRIALS

Lead Author: Roger S. McIntyre, M.D.
Co-Author(s): Mauricio Tohen,
University of New Mexico, Department of Psychiatry, Albuquerque New Mexico, USA
Michael Berk,
Deakin University School of Medicine, Australia
Jun Zhao,
Merck, Whitehouse Station, NJ, 08889, USA
Emmanuelle Weiller,
H Lundbeck A/S, Corporate Medical Affairs, Valby, Copenhagen, Denmark

SUMMARY:
Objective:
To report the prevalence of subjects meeting the DSM-5 definition of mixed specifier amongst adults with bipolar I disorder in 2 randomized, double-blind, placebo–controlled asenapine studies. A further aim was to determine the moderational effect of depressive symptoms on manic symptom reduction in adults with bipolar mania.
Methods:
The trials (NCT00159744; NCT00159796) included subjects with a DSM-IV-TR diagnosis of manic or mixed episode, as part of bipolar I disorder with a YMRS total score ?20 at baseline. 977 patients were randomised to asenapine (20 or 10mg daily), placebo, or olanzapine (5-20mg daily) for 3 weeks.
This post hoc analysis mirrored the DSM-5 definition of mixed specifier (i.e. depressive symptoms during a manic episode) by linking to the corresponding MADRS/PANSS items: depressed mood (MADRS item 1 or 2), diminished interest/pleasure (MADRS item 8), psychomotor retardation (PANSS item G7), fatigue, loss of energy (MADRS item 7), worthlessness, guilt feelings (MADRS item 9) and thoughts of death (MADRS item 10).
Different severity cut-offs on MADRS/PANSS item scores were used to define the existence of depressive symptoms: ?3 (or ?2) items with a score A) ?1 on the MADRS items ?2 on the PANSS item, B) ?2 on the MADRS items and ?3 on the PANSS item, C) ?3 on the MADRS items and ?4 on the PANSS item. Changes from baseline were analyzed through analysis of covariance model with baseline values used as covariate; responders and remitters using the Cochran-Mantel-Haenszel test.
Results:
34% of patients had at least 3 items with a score ?1 for MADRS items and ?2 for the PANSS item. 18% of patients had at least 3 items with a score ?2 for MADRS items and

?3 for the PANSS item. 4.3% of patients had at least 3 items with a score ?3 for MADRS items and ?4 for the PANSS item. The proportion of patients with a DSM-IV mixed episode diagnosis increased with increasing severity of depressive symptoms (range 58-81%). Manic symptom and global symptom severity were stable across all severity cut-offs in patients with ?2 depressive features, and increased with increasing severity of depressive symptoms in patients with ?3 depressive symptoms (range: YMRS: 27.6-29.1; CGI-BP-S: 4.6-4.9).
Rates of remission from depressive symptoms (MADRS score ?12) at study end decreased with increasing severity in patients with ?2 (range 65-51%) or ?3 depressive features (61-43%). Rates of remission from manic symptoms (YMRS score ?12) were stable across all severity levels (range 32-39%), except in patients with ?3 depressive features where the highest remission was in the most severe patients (54%).
Conclusion:
These analyses of 2 randomized controlled asenapine studies using proxies to assess the DSM-5 specifier "mixed features" showed that depressive features are frequent in subjects with bipolar I disorder experiencing manic episodes, and increasing depression symptom severity is associated with poorer outcome.

NR8-10
LURASIDONE FOR THE TREATMENT OF BIPOLAR I DEPRESSION: TREATMENT OUTCOMES IN THE PRESENCE OF SUBSYNDROMAL HYPOMANIC FEATURES

Lead Author: Roger S. McIntyre, M.D.
Co-Author(s): M.H. Allen, J. Cucchiaro, A. Pikalov, H. Kroger, A. Loebel

SUMMARY:

Introduction: In patients diagnosed with bipolar I depression, low or subsyndromal levels of manic symptoms have been found to be clinically relevant and associated with an increased risk of treatment-emergent mania (Berk et al. J Affect Disord 2008;153-8; Frye et al. Am J Psych 2009;166;164-72). This post-hoc analysis evaluated whether the presence of subsyndromal hypomanic features influenced efficacy and safety outcomes with lurasidone in the treatment of bipolar I depression.
Methods: All subjects met DSM-IV-TR criteria for nonpsychotic bipolar I depression, with or without rapid cycling, with a Montgomery Asberg Depression Rating Scale (MADRS) score ?20 and a YMRS score ?12. Subjects were randomized to 6 weeks double-blind, once-daily treatment with either lurasidone 20-60 mg, lurasidone 80-120 mg, or placebo. For the current analysis, the lurasidone groups were combined. The presence or absence of subsyndromal hypomanic symptoms at baseline was defined using the YMRS based on two criteria: (1) patients above or below the median baseline YMRS score of 4; and (2) patients with a score of ?2 for two or more YMRS items.
Results: Treatment with lurasidone, compared with placebo, was associated with significantly greater reduction in MADRS scores in subjects with subsyndromal hypomanic symptoms (-15.73 vs. -10.93; p<0.01; MMRM; for the group with YMRS ?4; n=272); and in subjects without subsyndromal hypomanic symptoms (-15.16 vs. -10.75; p<0.01; MMRM for the group with YMRS <4; n=213). When analyzed using criterion 2 (?2 YMRS item scores with a severity ?2 at baseline), treatment with lurasidone, compared with placebo, was associated with significantly greater reduction in MADRS scores in subjects with subsyndromal hypomanic symptoms (-16.29 vs. placebo -10.93; p<0.01; MMRM; for the group with YMRS ?4); and in subjects without subsyndromal hypomanic symptoms (-14.63 vs. -10.08; p<0.001; MMRM). Statistical interaction terms (lurasidone X hypomanic subgroup) were non-significant for both analyses, supporting the absence of a significant influence of subsyndromal hypomanic symptoms on lurasidone's efficacy in bipolar I depression. Protocol-defined treatment-emergent mania rates were similar for subjects with vs. without subsyndromal hypomanic symptoms (YMRS ?4 criterion) for lurasidone (2.2% vs. 3.6%) and placebo (3.3% vs. 0%). Discontinuation rates due to adverse events were similar for subjects with vs. without subsyndromal hypomanic symptoms for lurasidone (7.1% vs. 5.0%) and placebo (5.6% vs. 5.6%).
Conclusions: The "real-world" presentation of bipolar I depression is characterized by the admixture of depressive and subsyndromal hypomanic features. The results of this post-hoc analysis indicate that the superior efficacy of lurasidone vs. placebo in bipolar I depression is observed in adults presenting with and without clinically significant subsyndromal hypomanic features.
Trial #: NCT00868699
Sponsored by Sunovion Pharmaceuticals Inc.

NR8-11
ATOMOXETINE TOLERABILITY IN ADULT PATIENTS RECEIVING DIFFERENT DOSING STRATEGIES

Lead Author: Linda Wietecha, M.S.
Co-Author(s): Dustin D. Ruff, PhD1; Albert J. Allen, MD, PhD1; Laurence L. Greenhill, MD2; Jeffrey H. Newcorn, MD3
1. Lilly USA, LLC, Indianapolis, IN 46285, USA
2. Departments of Child & Adolescent Psychiatry, New York Psychiatric Institute, New York, NY 10032, USA
3. Department of Psychiatry, Division of Child and Adolescent Psychiatry, Mount Sinai Medical Center. New York, NY 10029, USA

SUMMARY:

Objective: To better understand how frequency and duration of common treatment-emergent adverse events (TEAEs) during atomoxetine treatment are altered by different dosing schedules and recent stimulant therapy. Because sexual TEAEs were the focus of another analysis [Kelsey, 2012], the most commonly inquired upon, non-sexual TAEs were examined.
Methods: Analyses included safety data from 3 adult atomoxetine trials. The most common TEAEs were determined by incidence rates and frequency with which consumers and clinicians inquired about those TEAEs. Onset and duration of

TEAEs with slow versus fast titration, once-daily (QD) versus twice-daily (BID) dosing, and previous stimulant exposure were compared using Kaplan-Meier methods.
Results: A slightly higher percentage was male in the atomoxetine group (55.2% male; 44.8% female) versus placebo (46.2% male; 53.8% female); this was also true for Caucasian ethnicity (atomoxetine, 88.2%; placebo, 84.7%). Mean age in adults was comparable between the atomoxetine (39.0 years) and placebo (39.8 years) groups. The most commonly inquired about TEAEs were nausea, insomnia, decreased appetite, urinary hesitation/urinary retention, and fatigue. Insomnia had a significantly shorter time to onset and longer duration with BID versus QD dosing (p?.032) and fast versus slow titration (p?.007). No significant differences (p?.050) between adult patients with prior stimulant exposure and those who were stimulant-naïve were observed.
Conclusion: Time to onset and resolution of TEAEs appear to depend upon when atomoxetine is given (QD versus BID) and how quickly titration occurs (fast versus slow). These findings can be used to better manage tolerability issues and set appropriate expectations for clinicians and patients during atomoxetine titration to potentially improve treatment adherence and success.

Kelsey DK. (2012, May) Profile of Sexual and Genitourinary Treatment-Emergent Adverse Events Associated with Atomoxetine Treatment: A Pooled Analysis. Poster presented at the 165th Annual Meeting of the American Psychiatric Association, Philadelphia, PA.

Supported by funding from Lilly USA, LLC

NR8-12
CAN EXECUTIVE DYSFUNCTION EXPLAINS LOSS OF SOCIAL ROLES? A FOCUS ON BIPOLAR DISORDER

Lead Author: Laura Bernabei, Ph.D.
Co-Author(s): Delle Chiaie Roberto, Pancheri Corinna, Biondi Massimo

SUMMARY:

Neuropsychological impairment is a core feature of schizophrenia and bipolar disorder (BD). Deficits in attention, memory and executive functions are not consequent to psychopathology, because they are often detectable also in unaffected relatives of probands. Also impairments in concept formation and reasoning are common features in patients with severe mental illness (SMI).
Different domains of social functioning are involved in cognition and maintenance of social roles (vocational role) may need an adequate functioning in executive performances. In this study, performed in BD patients, we pursued the existence of a correlation between cognitive ability and functional capacity in a specific domain: maintenance of social roles.
Fifty-one consecutive euthimic BD patients (age 20-60) were assessed in this study. Patient's clinical symptoms were evaluated with Symptom Checklist-90 Revised (SCL-90R), Young Mania Rating Scale (YMRS) and Hamilton Rating Scale for Depression (HRSD-17).
All partecipants completed a comprehensive battery of neuropsychological subtests for memory, executive functions and attention, using Rey Auditory Verbal Learning Test (RAVLT), Rey Complex Figure Test (RCFT), Digit Span Test (DST), Wisconsin Card Sorting Test (WCST), Verbal Fluency (FPL), Stroop Test, Visual Search, Trail Making Test (TMT).
Life Skills Profile (LSP), Disability Scale (DISS) and World Health Organization Disability Assessment Schedule-II (WHODAS-II) were used to evaluate psychosocial functioning and social roles.
Results showed that euthimic BD patients of our group, displayed many impairments across several domains of neurocognition and social functioning.
Significant associations were observed between executive functions and loss of social roles (occupational functioning) in euthimic bipolar patients.
These results show that in BD patients, specific cognitive functions are associated with functional outcome. The assessment of these measures may therefore represent an important step in studies on psychosocial outcomes.
This study contributed to identify some specific targets for treatment or remediation in BD.

NR8-13
CARIPRAZINE EFFECTS ON YMRS ITEMS: RESULTS OF A POOLED ANALYSIS OF 3 RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED TRIALS IN BIPOLAR MANIA

Lead Author: Paul E. Keck Jr., M.D.
Co-Author(s): Stephen Zukin
Kaifeng Lu
István Laszlovszky
György Németh
Suresh Durgam

SUMMARY:

Background: Cariprazine is an orally active and potent dopamine D3/D2 receptor partial agonist with preferential binding to D3 receptors. Cariprazine is currently in development for the treatment of bipolar mania, a debilitating disease for which optimal clinical outcomes require treatments with broad antimanic efficacy. Cariprazine has demonstrated efficacy in 3 randomized, double-blind placebo-controlled trials (NCT01058096, NCT01058096, NCT01058096) in bipolar mania. This pooled analysis evaluated the effects of cariprazine on YMRS single-items to investigate efficacy across mania symptom domains.

Methods: Data were pooled from 3 cariprazine studies in patients with acute mania associated with bipolar I disorder. Cariprazine was flexibly dosed (3-12 mg/day) in 2 studies; the third study used a fixed/flexible dose design (3-6 mg/day, 6-12 mg/day). All 3 studies consisted of a washout period of up to 7 days followed by 3 weeks of double-blind treatment. Patients were hospitalized during screening and for a minimum of 2 weeks of treatment. Post hoc pooled analysis analyzed change from baseline to Week 3 in individual items of the Young Mania Rating Scale (YMRS) using a mixed-effects model for repeated measures (MMRM). Effect sizes (Cohen's

d) were calculated from the same MMRM model.

Results: A total of 1037 patients (cariprazine, n=608; placebo, n=429) were included in the pooled ITT population, defined as patients who received ?1 dose of study medication and had ?1 postbaseline YMRS assessment. In each of the individual trials, cariprazine showed significant advantage vs placebo on YMRS total score improvement (LSMD: -4.3 to -7.0; P<.0001 [all studies]). Cariprazine LSMD vs placebo was significant for all individual YMRS items: elevated mood (-0.38 [95% CI: -0.53, -0.24], P<.0001), increased motor activity-energy (-0.34 [95% CI: -0.49, -0.18], P<.0001), sexual interest (-0.29 [95% CI: -0.42, -0.17], P<.0001), sleep (-0.33 [95% CI: -0.48, -0.19], P<.0001), irritability (-0.85 [95% CI: -1.07, -0.63], P<.0001), speech (-0.69 [95% CI: -0.93, -0.46], P<.0001), language (-0.33 [95% CI: -0.46, -0.20], P<.0001), content (-0.78 [95% CI: -1.05, -0.51], P<.0001), disruptive-aggressive behavior (-0.69 [95% CI: -0.89, -0.50], P<.0001), appearance (-0.23 [95% CI: -0.33, -0.13], P<.0001), and insight (-0.24 [95% CI: -0.34, -0.14], P<.0001). In general, cariprazine treatment showed at least moderate effect sizes (Cohen's d) on all YMRS single items, with estimates ranging from -0.31 (increased motor activity) to -0.55 (irritability).

Conclusion: Cariprazine demonstrated efficacy on all individual YMRS items in this pooled analysis. These results suggest that cariprazine has broad efficacy across symptoms in the treatment of acute mania associated with bipolar I disorder.

This study was funded by Forest Laboratories, Inc. and Gedeon Richter Plc.

NR8-14
CHARACTERISTICS OF LIFETIME COMORBIDITY OF ATTENTION-DEFICIT/HYPERACTIVITY DISORDER IN PATIENTS WITH SOCIAL ANXIETY DISORDER

Lead Author: Ahmet Koyuncu
Co-Author(s): Erhan Ertekin,Istanbul Universiity, Istanbul Medical Faculty, Department Of Psychiatry
Cagri Yuksel
Zerrin Binbay,Bagcilar Teaching And Research Hospital, Department of Psychiatry
Banu Aslantas Ertekin
Rasit Tukel, Istanbul University, Istanbul Medical Faculty, Department Of Psychiatry

SUMMARY:

Objective: The aims of this study are to determine the attention deficit hyperactivity disorder (ADHD) comorbidity rates in patients with a primary diagnosis of social anxiety disorder (SAD) and then to assess the relationship between this comorbidity and sociodemographical and clinical characteristics of the patients.

Method: 130 consecutive patients with a primary diagnosis of generalized type SAD were recruited and therir diagnoses were confirmed with SCID-IV Clinician Version. ADHD comorbidity was assessed with ADHD module of K-SADS-PL (Schedule for Affective Disorders and Schizophrenia for School Age Children-Present and Lifetime Version). The patients were also evaluated with Liebowitz Social Anxiety Scale (LSAS), Beck Depression Inventory (BDI), Global Assessment of Functionality (GAF), and Sheehan Disability Scale (SDS). 89 patients with a history of lifetime ADHD (SAD- ADHD group) were then compared to 36 patients without a lifetime history of ADHD (SAD- without ADHD group) in terms of sociodemographical and clinical characteristics and other axis I comorbid disorders.

Results: A total of 94 patients reported ADHD symptoms (72.3%). There were 74 patients with predominantly inattentive type ADHD, 14 patients with mixed type and 1 patient with hyperactive/impulsive type ADHD. Five patients who did not meet full criteria were diagnosed as ADHD NOS and excluded from the comparisons. SAD-ADHD patients was younger and their age at SAD onset, first treatment contact and first depressive episode were also younger than patients in SAD- without ADHD group. SAD-ADHD group had more lifetime major depressive and bipolar disorders comorbidity, more atypical depressive episodes and suicide attempts than SAD- without ADHD. The average scores of LSAS anxiety and avoidance, BDI, SDS were higher; and current and last year GAF scores were lower in SAD-ADHD group than in SAD- without ADHD group.

Conclusion: Patients with SAD had a high rate of comorbid ADHD (especially predominantly inattentive type). ADHD comorbidity may be related to more severe SAD symptoms and lower functional outcomes.

NR8-15
CHILDHOOD TRAUMA FOR ADOLESCENTS WITH BORDERLINE PERSONALITY DISORDER: PATHWAYS FROM CHILDHOOD TRAUMA TO NON-SUICIDAL SELF-INJURY

Lead Author: Ludovic Gicquel, M.D., Ph.D.
Co-Author(s): Pr S. Nezeloff, MD, PhD
Université Libre de Bruxelles, TEAP, 24 rue Ketels, 1020 Brussels.

Pr V. Delvenne, MD, PhD
MD, PhD. Department of Psychiatry for Child and Adolescents. CHU Saint Jacques, 25030 Besancon cedex, France.

F. Perez-Diaz
Centre Emotion, CNRS - UPSR 3246, Hôpital de la Salpetrière, 75013 Paris.

Dr M. Douniol, MD
Department of Psychiatry for Child and Adolescents. Hôpital de la Salpétrière, 47-83 bd de l'hôpital, 75013 Paris, France.

C. Dugré-Lebigre
Psychologist, Department of Psychiatry for Adolescents and Young Adults, Institut Mutualiste Montsouris, Paris, France.

Dr A. Pham-Scottez
MD, Inserm U669, Paris, France, Clinique des Maladies Mentales et de l'Encéphale, 100, rue de la santé, 75014 Paris, France.

Pr Maurice Corcos, MD, PhD, Inserm U669, France. University René Descartes Paris 5, France. Department of Psychiatry for Adolescents and Young Adults, Institut Mutualiste Montsouris, Paris, France.

Dr Mario Speranza, MD, PhD, Inserm U669 université Paris V Paris XI. Centre Hospitalier de Versailles.

SUMMARY:
The objective of this study was to examine the relationship between borderline personality disorder and NSSI with respect to the role of trauma exposure and the médiation of specific psychopathological dimensions. A path analysis was conducted
to investigate the predictive weight of both different childhood trauma and specific psychopathological dimensions in contributing to NSSI. Affective instability and impulsivity appeared as mediators between childhood trauma and non-suicidal
self-injury in adolescents with borderline personality disorder. Affective lability mediated all type of trauma to NSSI whereas impulsivity only mediated sexual and physical abuses.

NR8-16
COGNITIVE AND AFFECTIVE MENTALIZING CAPACITIES AND THEIR RELATIONSHIPS WITH BORDERLINE PERSONALITY TRAITS IN ADOLESCENCE AND YOUNG ADULTHOOD

Lead Author: Deborah Badoud
Co-Author(s): Sarah Menghetti
Stephan Eliez
Martin Debbané

SUMMARY:
Introduction : Impairments in the development of mentalizing skills (i.e. the multifaceted capacity of understanding behavior in terms of intentional mental states) promote the emergence of self-pathology, notably borderline personality disorder (BPD). Examining early subclinical manifestations of BPD dimensions can inform on risk markers for the unfolding of BPD. This study considers potential cognitive markers associated with BPD dimensions during adolescence and young adulthood. Methods: 284 participants from 12 to 25 years (178 females; M=19.84, SD=3.38) underwent a protocol encompassing a computerized task of theory of mind (TOM) and the Basic Empathy Scale (BES; cognitive/affective subscales) as proxy measures of mentalizing as well as the Borderline Personality Inventory, assessing the affectivity/identity disturbance, interpersonal instability, dissociation/psychotic, impulsivity and narcissism dimensions of BPD. Results: With respect to TOM, our results first revealed that participants with high scores of either dissociation/psychotic or instable relationships tend to have poorer TOM ($p<.05$). Second, high impulsive adolescents showed better TOM while high impulsive young adults showed poorer TOM ($p<.01$). Regarding BES scores, participants with high level of affectivity/identity disturbances exhibited lower affective empathy ($p<.01$). Second, high narcissistic adolescents reported better empathy capacities while high narcissistic young adults exhibited poorer performances ($p<.05$). Discussion: This research emphasizes that cognitive and affective mentalizing facets play distinct roles in dimensions of BPD and in a way that changes over age. Whereas cognitive mentalizing underpins instability of relationships and dissociation borderline dimensions, affective mentalizing conversely sustains affectivity and identity disturbances borderline dimensions. Empathy may represent a protective factor associated with adolescent but not adult impulsivity and narcissism borderline dimensions.

NR8-17
COMPARISON OF TEMPERAMENT CHARACTERISTICS AND QUALITY LIFE IN PATIENTS WITH PANIC DISORDER AND THEIR FIRST-DEGREE RELATIVES

Lead Author: Gülcin Alt?nbas
Co-Author(s): Assist.Prof.Dr.Kür?at Alt?nba?
Çanakkale Onsekiz Mart University Faculty of Medicine, Departmen of Psychiatry, Çanakkale,Turkey

SUMMARY:
Aim: Panic disorder is one of the highly heritable anxiety disorder and high comorbidity with mood disorders is well known. Heritability of both mood and panic disorders are high and it is thought that they share common genetic etiologic pathways. On the other hand, temperament which is defined as genetic and congenital stable lifelong characteristics thought to be subclinical forms of mood disorders and current genetic evidence about these characteristics started to increase. From here, we aim to compare temperament and quality of life scores of panic disorder patients, their first-degree relatives and healthy controls.
Method: 67 patients with panic disorder who are followed in 2nd Step Outpatient Unit of Bak?rköy Research and Training Hospital for Psychiatry, Neurology and Neurosurgery, 37 first-degree relatives of these patients and 37 healthy controls were recruited for the study. Written informed consents were taken from all participants and sociodemografic data forms were filled. Diagnosis of panic patients were comfirmed with SCID-I and Panic-Agarophobia Scale, State and Trait Anxiety Inventory were applied to patient group. All the participants were given TEMPS-A for detecting temperament characteristics and WHOQOL-BREF for measuring quality of life. Statistical analysis were done with SPSS 19th version and the study was approved by the local ethic committee.
Results: All groups were equal in temrs of sociademografic variables. Anxious, depressive, cyclotymic and irritable tem-

perament scores of patients were higher than control group. Besides, while social, physical and mental quality of life subscale scores of patients were lower than control group; there was significant difference between patients and their relatives only in social quality of life subscale scores.
Conclusion: Findings of high anxious, depressive, cyclotymic and irritable temperament scores in panic patients support the high rate of comorbidity of panic and bipolar disorders and shared etiological pathways. We think that detecting temperament characteristics of panic patients in clinical practice would predict the potential comorbidity of mood and anxiety disorders.

NR8-18
ASSOCIATION BETWEEN CLINICAL IMPROVEMENT AND TREATMENT STRATEGIES IN PATIENTS DIAGNOSED WITH BIPOLAR DISORDER IN A REAL-LIFE HOSPITAL SETTING

Lead Author: Stephanie Stolberg, M.D.
Co-Author(s): Koppolu SS , Vaughan B, Szklarska-Imiolek M, Linares F, Cohen L, Galynker I.

SUMMARY:
INTRODUCTION: Second generation antipsychotics (SGAs) and mood stabilizers are currently a treatment of choice for acute and mixed mania. Their relative efficacy as compared to that of the first generation antipsychotics (FGAs) is a matter of controversy. With the varying costs of treatment, long term side effects, risk of polypharmacy, and the varying degrees of improvement in patients, physicians are faced with the challenge of choosing the best medication to address these ever changing demands. In this context, our study compared treatment response to these three classes of agents in patients admitted with acute mania in a real-life inpatient hospital location.

METHODS: Interim data analysis from an ongoing retrospective chart review study was done. Patients were selected based on the following criteria: ages 18-65, discharged from an Inpatient Psychiatric unit after being hospitalized for acute mania, for a minimum of 2 weeks, and diagnosed with Bipolar disorder, manic or mixed episode. Two Clinical scales, the Clinician Administered Rating Scale for Mania (CARS-M) and the Clinical Global Impressions for Illness Severity (CGI-S, CGI-I), were used to rate the severity of illness. The charts were reviewed by 3 different physicians and rated using the above scales. The least difference criteria were used to determine consensus score for each item on the two scales. Analysis of overall CARS -M improvement with the different medications was done on 8 data points. Magnitude of improvement and Time to peak response on CARS-M was compared across medication class. Effects of dosage, analyzed as chlorpromazine equivalents, and medication class on magnitude of symptomatic improvement was also assessed.

RESULTS: Most of the patients were on more than one medication class. Patients discharged on SGA's compared to those who were not on SGA's, had statistically significant lower CARS-M on admission (p= 0.04). The change in CARS-M scores from admission to discharge was significantly higher in patients on FGA's than in those who were not (p= 0.05). In contrast, the reduction in CARS - M scores with those discharged on SGA's or mood stabilizers did not differ from those who were not. The degree of symptomatic improvement was significantly related to the antipsychotic dose in chlorpromazine equivalents in FGAs but not in SGAs.

CONCLUSIONS: In the real-life hospital setting, the degree of symptomatic improvement in patients admitted with acute mania over the course of their hospital stay appears to be higher in FGAs over both SGAs and mood stabilizers. Further research is needed into the comparative efficacy of medication classes and individual medications for the treatment of mania in the real life hospital setting.

NR8-19
EFFECT OF LURASIDONE MONOTHERAPY OR ADJUNCTIVE THERAPY ON ANXIETY SYMPTOMS IN PATIENTS WITH BIPOLAR I DEPRESSION

Lead Author: Robert M. A. Hirschfeld, M.D.
Co-Author(s): Josephine Cucchiaro, PhD
Andrei Pikalov, MD, PhD
Peter Werner, PhD
Jay Hsu, PhD
Hans Kroger, MS
Antony Loebel, MD

SUMMARY:
Introduction: Over half of patients diagnosed with bipolar disorder I (BP-I) depression experience clinically significant anxiety, and over one-third will be diagnosed with an anxiety disorder in their lifetime. This analysis evaluated the efficacy of lurasidone as monotherapy or adjunctive to lithium (Li) or valproate (VPA) in treating symptoms of anxiety in patients with Bipolar I Depression (BPD).
Methods: Patients meeting DSM-IV-TR criteria for BPD, with or without rapid cycling, with a Montgomery Åsberg Depression Rating Scale (MADRS) score ?20, were randomized, in 2 large, parallel-group, multi-regional trials (combined n=853), to 6 weeks of once-daily, double-blind treatment with lurasidone adjunctive to lithium (Li) or valproate (VPA) - PREVAIL 1; or double-blind treatment with lurasidone monotherapy - PREVAIL 2. In PREVAIL 1, patients received either lurasidone 20-120 mg/day or placebo, in combination with either Li or VPA. In PREVAIL 2, patients received either lurasidone 20-60 mg, lurasidone 80-120 mg, or placebo (both treatment arms were combined in the current analysis). In both studies, the primary outcome was change in depressive symptoms, assessed by the MADRS. Symptom severity of anxiety was determined using the Hamilton Anxiety Scale (HAM-A).
Results: In PREVAIL 1, treatment with lurasidone adjunctive to Li or VPA, significantly reduced HAM-A total score compared with placebo (-8.0 vs. -6.0; p=0.003; LOCF); significant improvement vs. placebo was also observed for the HAM-A psychic (p=0.009) and somatic (p=0.008) factors. One hundred and eleven patients (32.2%) in this study met

criteria for moderate-to-severe anxiety (HAMA ?18) at baseline. Treatment with lurasidone was associated with higher endpoint anxiety responder rates (?50% reduction in HAM-A) compared with placebo in both the total sample (60.5% vs. 40.9%; p<0.001) and in the moderate-to-severe anxiety subgroup (68.8% vs. 45.1%; p=0.009; LOCF). In PREVAIL 2, lurasidone monotherapy significantly reduced HAM-A total score compared with placebo
(-6.6 vs. -4.6; p<0.001; LOCF); significant improvement vs. placebo was also observed for the HAM-A psychic factor (p?0.001), but not the somatic factor (p=0.108). One hundred sixty eight patients (33.7%) in this study met criteria for moderate-to-severe anxiety (HAMA ?18) at baseline. Treatment with lurasidone was associated with higher endpoint anxiety responder rates compared with placebo in both the total sample (52.9% vs. 31.1%; p<0.001) and in the moderate-to-severe anxiety subgroup (51.0% vs. 37.3%; p=0.131; LOCF). In the high anxiety subgroup, an analysis by dose found higher responder rates on lurasidone for the 20-60 mg dosage group (56.1%; p=0.057 vs. placebo) than for the 80-120 mg group (43.9%; p=0.578).
Conclusions: In this analysis, treatment of BPD with lurasidone, either as monotherapy or adjunctive to lithium or valproate, significantly improved both psychic and somatic symptoms of anxiety.

NR8-20
EFFECT OF LURASIDONE ON METABOLIC INDICES IN BIPOLAR I DEPRESSION: DATA FROM MONOTHERAPY AND ADJUNCTIVE STUDIES

Lead Author: Susan McElroy, M.D.
Co-Author(s): A. Pikalov, J. Cucchiaro, J. Hsu, H. Kroger, D. Phillips, A. Loebel

SUMMARY:
Introduction: Antipsychotics are commonly used in the management of bipolar disorder but may lead to adverse metabolic consequences, including weight gain and in long-term use an increased risk for diabetes and cardiovascular disease. These adverse metabolic effects are in addition to effects associated with bipolar illness itself. Metabolic outcomes from two placebo-controlled studies of lurasidone in patients with acute bipolar I depression are reported here.
Methods: PREVAIL 1 (adjunctive therapy) and PREVAIL 2 (monotherapy) were 6-week, double-blind, placebo-controlled studies that evaluated the efficacy and safety of lurasidone as monotherapy (20-60 mg/d or 80-120 mg/d vs placebo) or adjunctive therapy (20-120 mg/d) added to lithium (Li) or valproate (VPA), in patients (combined N=583) with non-psychotic bipolar I depression, with or without rapid cycling (DSM-IV-TR). Changes from baseline to week 6 in metabolic parameters (lipids, glucose, weight, insulin, and homeostatic model assessment of insulin resistance [HOMA-IR]) were assessed by rank ANCOVA (LOCF), adjusted for baseline values. All metabolic parameters were obtained under fasting conditions per protocol.
Results: With lurasidone monotherapy, mean weight change from baseline for lurasidone vs placebo was 0.64 vs -0.09 lbs, respectively (p=NS). Weight gain from baseline of ?7% occurred in 2.4% of lurasidone vs <1% of placebo patients. Mean changes for lurasidone monotherapy were comparable to placebo for cholesterol (-1.7 vs -3.2 mg/dL), LDL (-2.7 vs -3.5 mg/dL), triglycerides (3.0 vs 6.0 mg/dL), glucose (0.5 vs 1.8), insulin (3.56 vs 2.95 mU/L), and HOMA-IR (1.08 vs 1.19), respectively (p=NS for all comparisons). With lurasidone adjunctive to Li or VPA, no significant changes in mean weight from baseline were observed vs placebo (0.51 vs 0.31 lbs); 3.1% of adjunctive lurasidone vs <1% of adjunctive placebo patients had weight gain of ?7% over 6 weeks. No significant mean changes were noted for adjunctive lurasidone vs placebo for cholesterol (-3.0 vs -3.8 mg/dL), LDL (-3.2 vs -2.0 mg/dL), triglycerides (9.0 vs -6.2 mg/dL), glucose (0.9 vs -0.3 mg/dL), insulin (1.66 vs -0.16 mU/L), and HOMA-IR (0.26 vs -0.07), respectively (p>0.05 for all comparisons) from baseline.
Conclusions: Lurasidone was not associated with significant metabolic disturbance either as monotherapy or as adjunctive therapy when added to Li or VPA in these short-term, placebo-controlled studies involving patients with acute bipolar I depression. Further studies are needed to assess the long-term metabolic profile of lurasidone in patients with bipolar disorder.

Sponsored by Sunovion Pharmaceuticals Inc.

NR8-21
EFFECTS OF A SINGLE 10 MG DOSE OF METHYLPHENIDATE ON ATTENTION COMPONENTS AND EXECUTIVE FUNCTIONS IN ADULTS WITH ADHD: A PILOT STUDY

Lead Author: Stéphane Ertlé, Psy.D.
Co-Author(s): Léna Vanoli, Alexis Erb, Fabrice Duval

SUMMARY:
Background: Attention deficit / hyperactivity disorder (ADHD) affects about 60 % of adults who suffered from ADHD in childhood. Methylphenidate is a common off-label treatment. The aim of this pilot study was to assess the neuropsychological effects of a single dose of methylphenidate (10 mg orally) on different attention components and executive functions by using the computerized attention assessment battery TAP 2.2 (Testbatterie zur Aufmerksamkeitsprüfung).
Methods: Fifteen DSM IV-ADHD adult patients were enrolled into this study. Neuropsychological evaluations were performed at baseline and after the methylphenidate test. Patients were subsequently treated with adequate dose of methylphenidate and followed over a period of 6 months.
Results: Compared with baseline, a single dose of methylphenidate induced in significant improvement in working memory ($p = 0.001$), sustained attention ($p = 0.0007$) and visual scanning ($p = 0.0007$) in terms of omissions and mistakes. Reaction times also decreased in tonic arousal ($p = 0.002$), incompatibility ($p = 0.008$) and flexibility tasks ($p < 0.00001$). There was a significant correlation between working memory and sustained attention before and after methylphenidate (both $p < 0.01$). Among our patients, 12 who responded positively to the methylphenidate test, showed favorable long-term outcome with methylphenidate treatment.

Conclusions: Adults with ADHD showed neurocognitive improvements after a single 10 mg dose of methylphenidate. Our results suggest that the methylphenidate test would be useful in predicting subsequent response to methylphenidate treatment in ADHD adult patients. Controlled prospective studies are needed to confirm this hypothesis.

NR8-22

A PROSPECTIVE NATURALISTIC STUDY OF ANTIDEPRESSANT-INDUCED ANXIETY SYNDROME

Lead Author: Tsuyoto Harada, M.D., Ph.D.
Co-Author(s): Ken Inada, M.D., Ph.D., Kazuo Yamada, M.D., Ph.D,. Kaoru Sakamoto, M.D., Ph.D, Jun Ishigooka, M.D., Ph.D.

SUMMARY:

Objective: Patients often develop neuropsychiatric symptoms such as anxiety, agitation and so on after they start taking an antidepressant, which is thought to carry a potentially increased risk of suicide. However, the incidence of antidepressant-induced anxiety syndrome has not been fully investigated and little has been reported on its predictors. The aim of this study was to survey the incidence of antidepressant-induced anxiety syndrome and clarify its predictors in a natural clinical setting.
Method: We prospectively surveyed the cases of 301 patients between January 2009 and July 2012 who did not take any antidepressants for one month before visiting and were prescribed antidepressant during one month after initial visit. Patients were classified as developing antidepressant-induced anxiety syndrome if they experienced any symptom of anxiety, agitation, panic attacks, insomnia, irritability, hostility, aggressiveness, impulsivity, akathisia, hypomania and mania during the first one month.
Results: Of the 301 patients, 21 (7.0%) developed antidepressant-induced anxiety syndrome. First-degree relatives of persons with mood disorder and DSM-IV-TR diagnosis of major depressive disorder were significantly associated with the induction of antidepressant-induced anxiety syndrome (Odds Ratio=10.2, p=0.001 and Odds Ratio=4.65, p=0.02, respectively). The incidence was not significantly related to gender, age, class of antidepressant, combined use of benzodiazepine, or DSM-IV-TR diagnosis of anxiety disorder.
Conclusions: This study suggests that first-degree relatives of persons with mood disorder and DSM-IV-TR diagnosis of major depressive disorder may be a clinical predictor of antidepressant-induced anxiety syndrome, which might suggest those who develop antidepressant-induced anxiety syndrome have potentially tendency for bipolar disorder.

NR8-23

GROUP PSYCHOEDUCATION NORMALIZES CORTISOL AWAKENING RESPONSE IN STABILIZED PATIENTS WITH BIPOLAR DISORDER UNDER PHARMACOLOGICAL MAINTENANCE TREATMENT

Lead Author: Roberto Delle Chiaie, M.Med.
Co-Author(s): Trabucchi G, Girardi N, Marini I, Pannese R, Vergnani L, Caredda M, Zerella MP, Minichino A, Patacchioli FR, Simeoni S, Biondi M

SUMMARY:

We hypothesized that reduction in recurrences obtained in bipolar patients (BP) with group psychoeducation (PE) could be based also on their improved resilience.

To verify this we measured cortisol awakening response (CAR), which is considered a valid index of HPA axis function.

20 stabilized BP under pharmacological treatment, were randomly assigned to either a group PE (PE, N=9) or to continuation of their treatment as usual (TAU, N=11).

To assess cortisol levels, both at baseline and at endopoint, saliva samples were collected upon waking, 30 and 60 min thereafter.

No significant intergroup differences were observed for treatment adherence, but curves of salivary cortisol concentrations showed that while at baseline both groups displayed a "flat slope" CAR, at the endpoint this profile appeared modified only in patients treated with PE.

NR8-24

HISTORY OF ALCOHOL AND DRUG USE DISORDERS RELATED TO EARLIER ONSET, EATING DISORDERS, AND PRIOR SUICIDE ATTEMPT IN PATIENTS WITH BIPOLAR DISORDER

Lead Author: Michael J. Ostacher, M.D., M.P.H.
Co-Author(s): Farnaz Hooshmand, MD, Shefali Miller, MD, Jennifer Dore, MD, Po W. Wang, MD, Shelley J. Hill, MS, Natalie Portillo, MA, and Terence A. Ketter, MD

SUMMARY:

Objective:
To compare demographics and illness characteristics in patients with and without histories of alcohol use disorders (AUD) and drug use disorders (DUD) upon entry to a tertiary care bipolar disorder (BD) clinic.

Methods:
Patients with and without histories of AUD and DUD referred to the Stanford University Bipolar Disorder Clinic during 2000-2011 and assessed with the Systematic Treatment Enhancement Program for BD (STEP-BD) Affective Disorders Evaluation were compared with respect to demographics and illness characteristics. Analyses were made using pairwise comparisons.

Results:
Among 505 BD outpatients (mean±SD age 35.5±13.1years; 58.2%female; 48.5% Type I, 41.8% Type II; with illness duration 17.6 ±13.3 years; Clinical Global Impression for Bipolar Disorder-Overall Severity score 3.9±1.5, and taking 2.6±1.7 medications), 37.0% had a history of AUD and 36.4% had a

history of DUD. History of AUD and history of DUD were both significantly related to earlier age of onset, history of eating disorder, and prior suicide attempt. History of AUD was also significantly related to Hispanic ethnicity and personality disorder diagnosis, whereas history of DUD was also significantly related to non-Asian race, history of comorbid anxiety disorder, current syndromal/subsyndromal mood elevation, and higher current Clinical Global Impression for Bipolar Disorder Overall Illness Severity (CGI-BP-OS). Neither history of AUD nor history of DUD were significantly related to age, gender, education, employment status, marital status, bipolar subtype, illness duration, history of psychosis or psychiatric hospitalization, or current number of psychotropic medications. History of AUD was not related to comorbid anxiety disorder, current mood state, or current CGI-BP-OS, and history of DUD was not related to history of comorbid personality disorder.

Conclusion:
Patients with BD and a history of substance use disorders in this sample have clinical characteristics that distinguish them from patients without substance use disorders. The lack of association between current symptom severity and AUD comorbidity is in contrast to SUD comorbidity. The relevance of these differences to treatment selection and outcome should be explored.

NR8-25
HISTORY OF ANXIETY DISORDER RELATED TO HISTORY OF DIVERSE COMORBID PSYCHIATRIC DISORDERS IN PATIENTS WITH BIPOLAR DISORDER

Lead Author: Terence A. Ketter, M.D.
Co-Author(s): Farnaz Hooshmand MD, Shefali Miller MD, Jennifer Dore MD, Shelley J. Hill MS, Natalie Portillo MA, and Po W. Wang MD.

SUMMARY:

Objective:
Comorbid anxiety disorders are common in bipolar disorder (BD) patients, and have been consistently associated with female gender, earlier onset age, history of substance abuse, more severe mood symptoms, and poorer global outcome, and less consistently related to bipolar disorder subtype (Type I versus Type II), and suicidality. We compared patients entering a tertiary care BD clinic with and without a history of anxiety disorder with respect to demographics and illness characteristics.
Methods:
Patients with and without a history of anxiety disorder referred to the Stanford University Bipolar Disorder Clinic during 2000-2011 and assessed with the Systematic Treatment Enhancement Program for BD (STEP-BD) Affective Disorders Evaluation were compared with respect to demographics and illness characteristics.
Results:
Among 505 BD outpatients (mean±SD age 35.5±13.1years; 58.2%female; 48.5% Type I, 41.8% Type II; with illness duration 17.6 ±13.3 years; Clinical Global Impression for Bipolar Disorder-Overall Severity (CGI-BP-OS) score 3.9±1.5, and taking 2.6±1.7 medications), 64.8% had a history of anxiety disorder. Patients with compared to without a history of anxiety disorder, as expected, were significantly more often female (64.7% versus 46.4%, df = 1, Chi-square = 15.3, p = 0.0001), had earlier onset age (16.5±7.3 versus 20.6±9.9, df = 493, t = 5.3, p < 0.0001), and more often had a history of substance use disorder (42.8% versus 31.5%, df = 1, Chi-square = 5.9, p = 0.015), and current non-euthymic mood state (62.1% versus 48.2%, df = 1, Chi-square = 8.7, p = 0.004), worse current CGI-BP-OS (4.1±1.4 versus 3.5±1.5, df = 490, t = 4.6, p < 0.0001), and more current psychotropic medications (3.2±1.8 versus 2.4±1.5, df = 492, t = 5.0, p < 0.0001); and in addition, were significantly more often non-Asian (93.3% versus 85.4%, df = 1, Chi-square = 8.0, p = 0.008), and more often had bipolar II disorder subtype (56.3% versus 42.3%, df = 1, Chi-square = 8.7, p = 0.003), histories of comorbid alcohol use disorder (41.1% versus 30.4%, df = 1, Chi-square = 5.5, p = 0.03), eating disorder (18.9% versus 9.5%, df = 1, Chi-square = 7.3, p = 0.006), and personality disorder (14.2% versus 7.7%, df = 1, Chi-square = 4.4, p = 0.04), but were less likely to have prior psychiatric hospitalization (32.7% versus 48.5%, df = 1, Chi-square = 11.5, p = 0.0008), and did not differ significantly with respect to age, education, marital or employment status, illness duration, history of suicide attempt or history of psychosis.
Conclusion:
Further study is needed to assess whether history of anxiety disorder is related to a more diverse history of comorbid psychiatric disorders (including not only history of substance use disorder, but also history of alcohol use disorder, eating disorder, and personality disorder) than previously reported in patients with bipolar disorder.
Support:
This research was conducted with support from the Pearlstein Family Foundation.

NR8-26
LONG-TERM SAFETY AND TOLERABILITY OF OPEN-LABEL CARIPRAZINE IN PATIENTS WITH BIPOLAR I DISORDER

Lead Author: Terence A. Ketter, M.D.
Co-Author(s): Gary S. Sachs
Kaifeng Lu
István Laszlovszky
Krisztián Nagy
Anju Starace
Suresh Durgam

SUMMARY:

Objective: After symptomatic remission of an acute manic episode is achieved, extended pharmacotherapy is needed for long-term management of bipolar disorder; good safety and tolerability are essential components of effective long-term treatment. Cariprazine, an orally active and potent dopamine D3/D2 receptor partial agonist with preferential binding to D3 receptors, has demonstrated efficacy in three 3-week studies in acute mania (NCT00488618, NCT01058096, NCT01058668). This Phase III clinical trial (NCT01058668)

evaluated the long-term safety and tolerability of open-label cariprazine in patients with bipolar I disorder.

Methods: This was a multinational, multicenter, open-label, flexible-dose study of cariprazine (3-12 mg/d) in patients aged 18-65 years with DMS-IV-TR–defined bipolar I disorder. The study duration was 20 weeks (up to 7 day no-drug washout, 16-week open-label treatment, and 3-week safety follow-up). Safety was evaluated by adverse events (AEs), clinical laboratory values, vital signs, weight, electrocardiograms (ECGs), Columbia-Suicide Severity Rating Scale (C-SSRS), ophthalmologic examinations, and extrapyramidal symptom (EPS) scales. Symptom severity was evaluated by YMRS total score change from baseline (LOCF).

Results: A total of 402 patients received at least 1 dose of cariprazine (Safety Population). The overall completion rate was 33%; the most frequent reasons for discontinuation were withdrawal of consent (20%), AE (16%), and protocol violation (14%). Mean treatment duration was 57.7 d and mean daily cariprazine dose was 6.2 mg/d. No deaths were reported. Serious AEs (SAEs) occurred in 8% of patients; most SAEs were associated with worsening of mania, depression, or akathisia. The most common AEs leading to discontinuation were akathisia (5%) and depression (2%). Treatment-emergent AEs (TEAEs) occurred in 83% of patients. TEAEs reported in ?10% of patients were akathisia (33%), headache (17%), constipation (11%), and nausea (10%); overall, EPS-related TEAEs were reported in 46% of patients. C-SSRS–rated suicidal ideation and behavior occurred in 9% and 1% of patients, respectively; TEAEs of suicide ideation and suicide attempt occurred in 4 and 3 patients, respectively. Mean body weight increase was less than 1 kg; 9% of patients had ?7% weight gain. Mean changes in laboratory values, vital signs, ECGs, and ophthalmology parameters were generally small. Cariprazine treatment was not associated with an increase in prolactin levels. Mean reduction from baseline in YMRS total score (baseline, 26.1 ± 5.0) was -13.6 ± 8.5 at Week 3 and -15.2 ± 9.2 at Week 16.

Conclusions: In this open-label study of patients with bipolar mania, treatment with cariprazine 3-12 mg/d for up to 16 weeks was generally well tolerated but was associated with an increased incidence of EPS-related AEs.

This study was funded by Forest Laboratories, Inc. and Gedeon Richter Plc.

NR8-27
INFLAMMATION AND CHRONIC STRESS IN ADOLESCENT MOOD DISORDERS

Lead Author: Jennifer Pearlstein, B.S.
Co-Author(s): Staudenmaier, P., Li, S., Dhabhar, F., Chang, K., & Cosgrove, V.

SUMMARY:

This study assesses the relationship between chronic life stress and circulating levels of pro- and anti-inflammatory cytokines in youth with mood disorders. It has been shown that experiencing chronic stressors can influence the inflammatory response by impacting the release of cytokines. Participants were recruited through the Stanford Pediatric Bipolar Disorders Program as part of a larger study. Participants were adolescents with no psychopathology (HC), diagnosed with bipolar disorder (BD) I, II, or NOS, or were at high risk (HR) for developing bipolar disorder. HR youth met DSM-IV-TR criteria for major depressive disorder (MDD) and/or attention deficit hyperactivity disorder (ADHD) and had one parent diagnosed with BD I or II. Participants' chronic life stress was assessed using the Youth Life Stress Interview (YLSI). Symptoms of depression were measured with the Children's Depression Rating Scale (CDRS) while symptoms of mania were measured with the using the Young Mania Rating Scale (YMRS). Circulating levels of pro-inflammatory cytokines IL-6 and TNF-alpha and anti-inflammatory IL-10 were measured during a blood draw. Mean age (n = 45) was 16.33 (SD = 2.26, range 10-17). Participants included HC (n =10, 22.2%), HR (n=21, 46.7%), and BD (n=14, 31.1%). Within the BD group, 24.4% were diagnosed with BD I, 4.4% with BD II, and 8.9% with BD NOS. Within BD and HR groups, 31.1% was diagnosed with co-occurring ADHD. Mean CDRS score was 22.5 (SD = 6.6) for healthy controls, 35.79 (SD = 8.98) for at-risk patients, and 46.46 (SD = 15.74) for patients with bipolar. Average manic symptom severity, obtained using the Young Mania Rating Scale (YMRS) was 2.56 (SD = 3.61) for healthy controls, 10.94 (SD = 6.60) for at-risk patients, and 11.66 (SD = 5.82) for patients with bipolar disorder. Analysis of covariance (ANCOVA) for IL-6, IL-10, and TNF-alpha between HC, HR, and BD groups with YLSI, CDRS, and YMRS as covariates was significant for IL-6 ($F = 4.16$, $p < .05$; HC =.67 ± .38, HR = .89 ± .89, BD = 3.85 ± 8.1) but not for IL-10 (F=.94, p=.48) or TNF-alpha (F=.74, p=.60). For IL-6, YLSI significantly accounted for variability in IL-6 levels ($F = 14.20$, $p < .005$). This finding suggests that exposure to environmental stressors may interfere with anti-inflammatory processes as expressed byIL-6 in adolescents with mood disorders. Future directions should include examining specific life stressors (e.g., social stress, family stress, health problems, etc.) and their relationship to pro- and anti-inflammatory cytokines. Isolating pertinent stress areas would allow for the development of specific psychotherapeutic interventions focused on reducing chronic stressors in targeted populations.

NR8-28
IS OCULOMOTRICITY A GOOD MARKER OF MPH EFFICIENCY IN ADHD?

Lead Author: Magali Seassau, Ph.D.
Co-Author(s): Roberta Carcangiu
Thomas Weiss
Fabrice Duval

SUMMARY:

Background: Attention-Deficit/hyperactivity disorder (ADHD) is characterized by behavioral symptoms of inattention and may include hyperactivity and impulsivity. The impulsivity and inattention suggest deficits in the voluntary control of behavior. Eye movements depend on structures implicated in attention and in motor control, both criteria areas of dysfunc-

tion in ADHD. In the present study, objective was to evaluate the effect of methylphenidate (MPH) using oculomotricity in ADHD children.
Methods: Subjects were aged 7-12 years, with ADHD on and off MPH (N=9), and control subjects (N=9). Saccade latencies, precision, accuracy and percentage of anticipatory errors were determined in automatic attentional tasks (visually-guided-saccades) and voluntary attentional tasks (overlap, antisaccades and fixations tasks).
Results: Significant differences existed between ADHD on MPH and ADHD off MPH, in latencies ($p<0.02$), precision ($p<0.04$), accuracy ($p<0.05$) and percentage of anticipatory errors ($p<0.05$). Compared to controls, ADHD on MPH had normalized performances in automatic task, while they still impaired in voluntary attentional tasks.
Conclusions: MPH modified motor planning and response inhibition in ADHD children. Benefits depend of the type of tasks, automatic and voluntary attention. These results suggest that eye movements could be a good marker of MPH efficiency in ADHD.

NR8-29
LONG-TERM OUTCOMES IN ATTENTION-DEFICIT/HYPERACTIVITY DISORDER (ADHD): A SYSTEMATIC REVIEW OF SELF ESTEEM AND SOCIAL FUNCTIONING

Lead Author: Paul Hodgkins, B.Sc., M.Sc., Ph.D.
Co-Author(s): Val Harpin, MB, BChir, MD, FRCPCH - Consultant Neurodevelopmental Paediatrician, Ryegate Children's Centre, Sheffield Children's NHS Foundation Trust, Sheffield, UK
Luigi Mazzone, MD - Child Neuropsychiatry Unit, Department of Neuroscience, I.R.C.C.S. Children's Hospital Bambino Gesù, Rome, Italy
Jean-Philippe Raynaud, MD - Child and Adolescent Psychiatry, CHU de Toulouse, Inserm UMR 1027, Toulouse, France
Jennifer Kahle, PhD - BPS International, San Diego, CA, USA

SUMMARY:
Introduction: Attention deficit hyperactivity disorder (ADHD) is the most common childhood onset psychological disorder and affects several domains of health-related quality of life (HRQoL) in children and adolescents. In addition to the core symptoms of ADHD (inattention, hyperactivity, and impulsivity), impairments in HRQoL and functioning are commonly used to examine the long-term effects of the disorder. This systematic review examines long-term self-esteem and social functioning outcomes in individuals with treated and untreated ADHD across childhood, adolescence, and adulthood.
Methods: A systematic literature search of 12 databases was conducted to identify studies published in English between 1/1/1980 and 12/31/2011 that reported long-term (?2 years) self-esteem or social functioning outcomes of children, adolescents, and/or adults with treated or untreated ADHD. Primary research, peer-reviewed studies assessing an ADHD group, and a control group or comparator condition were included. Outcomes in each study were classified as 'poorer' if a result was reported to be statistically significantly worse than the comparator (e.g. non-ADHD controls), or as 'similar' if no statistically significant differences were reported. Treatment could be of any kind (pharmacological, non-pharmacological, or combination), and was considered beneficial if a statistically significant outcome improvement compared with pre-treatment or untreated ADHD was reported.
Results: The literature analysis identified 127 long-term studies reporting a total of 150 self-esteem and/or social functioning outcomes of individuals with ADHD. For individuals with untreated ADHD, the majority of outcomes were poorer than in non-ADHD controls (57% [13/23] of outcomes for self-esteem and 73% [52/71] for social functioning); the overall proportion of poorer outcomes was highest for untreated children (6–12 years of age, 87%), followed by adults (?25 years, 70%), adolescents (13–17 years, 69%), and young adults (18–24 years, 50%). A beneficial effect of treatment was reported for 89% (8/9) of self-esteem outcomes and 76% (16/21) of social functioning outcomes, and was consistent across treatment types. Individuals with treated ADHD were often reported to have similar outcomes (71% [5/7] for self-esteem and 61% [19/31] for social functioning) compared with non-ADHD controls.
Conclusions: Individuals with untreated ADHD were more often reported to have poorer long-term self-esteem and social functioning outcomes versus non-ADHD controls, and treatment of ADHD was more often associated with improvement in these outcomes.

NR8-30
IMPACT OF INADEQUATE RESPONSE TO LITHIUM ON ILLNESS COURSE AND FUNCTIONAL OUTCOME IN PATIENTS WITH BIPOLAR DISORDER

Lead Author: Ester Jimenez, M.Sc.
Co-Author(s): B. Arias, M. Mitjans, J. M. Goikolea, A. Pérez, P. A. Sáiz, M. P. García-Portilla, P. Burón, J. Bobes, E. Vieta and A. Benabarre.

SUMMARY:
INTRODUCTION: Lithium (Li) is probably one of the mainstays of the treatment of bipolar patients (BP) due to its proven long-term effectiveness (Geddes et al., 2004) and its benefits in terms of preventing suicide (Cipriani et al., 2005;Baldessarini et al., 2006;Nivoli et al., 2010). However, not all bipolar patients (BP) show an adequate response to this drug, and a large number of studies have examined which factors are significantly associated to an optimal response to Li in recent years.
OBJECTIVE: Our goal was to verify whether clinical variables such as functional outcome and depressive subsyndromal symptoms are associated to Li response in bipolar patients. We hypothesized that poor responders to Li would be more functionally impaired and would present with more depressive subthreshold features even during euthymia.
METHODS: A cohort of 131 bipolar I or II outpatients were recruited. We categorized all patients into three groups according to their level of Li's responsiveness (Non responders

(NR), partial responders (PR) and excellent responders (ER)). A semi-structured interview based on the SCID was used to obtain sociodemographic and clinical data. Presence of depressive and manic features and functional outcome was assessed using the HDRS, the YMRS and the FAST, respectively. Categorical and quantitative variables were analyzed using Chi-square tests and one-way analysis of variance (ANOVA) as appropriate, respectively. For the multivariate analysis, patients belonging to excellent and partial responder groups were regrouped and categorized as good responders. RESULTS: Concerning univariate analysis, we found that the FAST total score differed significantly across the different groups according to Li responsiveness. NR group was the most functional impaired amongst the other two groups showing the highest FAST total scores (NR>PR, p<.001 ; PR>ER, p=.003; NR>ER, p<.001). Higher presence of subsyndromal depressive symptoms was also observed in the group of NR (NR>PR, p=.032 ; PR>ER, p<.001; NR>ER, p<.001). In addition, NR presented higher rates of rapid cycling (NR>PR, p=.010), atypical symptoms (NR>PR, p=.004), presence of seasonal pattern (NR>PR, p=.012; NR>ER, p=.015), suicidal ideation (NR>PR, p<.001; NR>ER, p<.001) and previous history of suicidal attempts (NR>PR, p=.002; NR>ER, p=.008). After carrying out the logistic regression model, we observed that only the presence of suicidal ideation (p=.005) and higher total FAST scores (p=.004) remained significantly associated to a poor response to Li (?=66.913, df=9, p< .001; Nagelkerke R^2=0.602).
CONCLUSION: Our results indicate an association between functional impairment and suicidal ideation and a worse response to Li. Therefore, the consideration of functional outcome assessment and suicidality data could foster the election of an appropriate prophylactic treatment in BP.

NR8-31
ASSOCIATION BETWEEN TOXOPLASMA GONDII INFECTION AND TCI PERSONALITY TRAITS

Lead Author: Sana Asif Kamal, M.B.B.S., M.D.
Co-Author(s): Ayesha Ashraf, Sara J. Hinman, Aamar Sleemi ,Ina Giegling, Annette M. Hartmann , Bettina Konte, Marion Friedl , Dan Rujescu , Teodor T. Postolache

SUMMARY:

BACKGROUND: One third of the population worldwide is infected with the protozoan parasite Toxoplasma gondii (T.gondii). Several studies have reported gender-dependant personality traits associated with T. gondii. As psychopathology was not adequately ruled out in those studies, it may have led to identifying spurious parasite-personality associations. METOHDS: The Temperament and Character Inventory (TCI) was administered to 1000 participants (490 males, 510 females, mean age of 53.5) recruited from the Munich metropolitan area. Blood T. gondii IgG antibodies were measured with ELISA. Psychopathology was ruled out with SCID I and II. TCI temperament and character scores were related to T. gondii seropositivity and serointensity. Statistical analyses included T. tests, ANCOVAs and linear regression, with age adjustment. RESULTS: T. gondii positive participants had higher self-transcendence scores (p=0.018). The association was significant only in males (p=0.012). Seropositive males also reported high harm- avoidance (p=0.044). No significant TCI associations were found with serointensity. CONCLUSION: This is the first study on TCI and T. gondii associations in individuals confirmed to be psychiatrically healthy by structured interviews. Chronic toxoplasmosis may be associated with increased self transcendence through microorganism's enzymatic capacity to synthesize dopamine, or alternatively, through immune mediation.

NR8-32
ABNORMAL METABOLIC PROFILE IN FAMILY MEMBERS OF SUBJECTS WITH BIPOLAR DISORDERS

Lead Author: Ignacio J. Sandia, M.D., Ph.D.

SUMMARY:

Background. Convergent evidence points to a high prevalence of physical illness particularly metabolic derangement in subjects with bipolar disorder (BD). However, few studies have included the patients' extended family. Methods. This is a cross-sectional study in an extended family of a rural area in Bailadores, Merida state, Venezuela, where several subjects with type I BD have been detected. After obtaining a voluntary informed consent in adults and parents, all the available subjects aged > 6 years were interviewed with structured clinical instruments for psychiatric diagnosis (1,2). Besides, body mass index, waist circumference, blood pressure, glucose and lipids were assessed in fasting conditions. The Metabolic Syndrome (MS) was diagnosed according to Latin American (for adults) and Venezuelan (for children and adolescent) criteria respectively (3,4). Results for adults were compared with data from the Venezuelan general population (GP) (5) by using the binary logistic regression with age and sex as covariates. Results. Ninety six subjects ((n < 18 yrs. = 30); (n > 18 yrs. = 66)) were evaluated. They were first, second and third degree relatives of the family founder. In adults, BD was diagnosed in 3 subjects (4.5%) and other mood disorders in 9 subjects (13.6%). The frequency of the MS in relatives was similar to that observed in the General Population (p = 0.3). However, the frequency of abnormal values of the following metabolic variables was significantly higher in the extended family: waist circumference (p = 0.007), glucose, HDL cholesterol, total and LDL cholesterol levels (p = 0.000) and blood pressure (p = 0.001).Thirty three percent of subjects below 18 yrs. had abnormal total cholesterol levels. Conclusions. A significant frequency of metabolic dysfunction was observed in relatives of subjects with BD.

Keywords: carbohydrate dysfunction, dyslipidemia, family studies, affective disorders, metabolic syndrome

References

(1) First MB et al. Am Psychiat. Press, 1997.
(2) Ulloa R et al. Actas Esp. Psiquiat. 2006; 34: 36-40.
(3) Sinay I et al. Asoc. LatinA. Diab. XVIII: 25-44.

(4) Paoli M et al. . Endocrinol Nutr. 2009; 56: 218-26.
(5) Baptista T et al. Schiz. Res. 2011 : 126 : 93-102.

NR8-33
MALADAPTIVE SCHEMAS DIFFERENTIATES BORDERLINE PERSONALITY DISORDER FROM BIPOLAR DISORDER

Lead Author: Ethan Lu
Co-Author(s): Thachell Tanis, Azra Qizilbash, Dilini Herath, Amir Ali, Lisa Cohen, Ph.D.

SUMMARY:

Objective:

Since its proposal two decades ago, the notion that borderline personality disorder might be better understood under the bipolar spectrum has created much conflict. One prior study attempted to show that, while the two may be symptomatically similar, the diagnoses are etiologically different by comparing the two on the Young Schema Questionnaire (Nilsson et al, 2010). However, the bipolar sample used in the study was euthymic while the borderline sample was not asymptomatic. In this study, we compare inpatients with bipolar disorder with inpatients who meet criteria for borderline personality disorder on the YSQ in an attempt to show that the diagnoses are indeed separate.

Methods:

The sample consisted of 68 subjects in total; 22 with bipolar disorder, 7 with schizophrenia, 16 with schizoaffective disorder, 19 with major depression and 4 other. Additionally, 20 patients were diagnosed with borderline personality disorder. Psychiatric inpatients were given the Structured Clinical Interview for DSM Axis I Disorders (SCID I) and the Structured Clinical Interview for DSM Axis II Disorders (SCID II) to determine their diagnoses. Patients were also administered the Young Schema Questionnaire (YSQ), a self-report questionnaire that assesses maladaptive schemas in personality. The 15 YSQ schema scores were then combined into 5 domain scores -- Rejection Domain, Impaired Autonomy and Performance, Impaired Limits, Other Directedness, and Overvigilance and Inhibition.

Results:

The domain score means of bipolar patients were compared with those of non-bipolar patients and the domain score means of borderline patients were compared with non-borderline patients. Across the 5 domain scores, bipolar patients did not significantly differ from their non-bipolar counterparts. Borderline patients, however, scored significantly higher than non-borderline patients on all 5 domains.

Conclusion:

As bipolar patients did not significantly differ from non-bipolar patients on the Young Schema Questionnaire, these data suggest maladaptive schemas are not characteristic of bipolar disorder. Conversely, maladaptive schemas appear to be a central characteristic of borderline personality disorder, providing additional evidence of the distinct nature of the two disorders.

References:

Nilsson AKK, Jorgensen CR, Straarup KN, Licht RW: Severity of affective temperament and maladaptive self-schemas differentiate borderline patients, bipolar patients, and controls. Comprehensive Psychiatry 2010; 51: 486-491.

NR8-34
METHYLPHENIDATE HYDROCHLORIDE MODIFIED RELEASE (MPH-LA) IN ADULTS WITH ATTENTION-DEFICIT/HYPERACTIVITY DISORDER (ADHD): OVERALL CLINICAL IMPROVEMENT

Lead Author: Daniel Gruener, M.D.
Co-Author(s): M. Huss
Child and Adolescent Psychiatry, University hospital, Mainz, Germany,
Y. Ginsberg
Department of Clinical Neuroscience, Karolinska Institutet, Stockholm, Sweden,
A. Philipsen
Department. of Psychiatry and Psychotherapy, University Medical Center, Freiburg, Germany,
T. Tvedten
Centre for Therapy and Supervision, Skien, Norway,
T. Arngrim
Private Practice, Aarhus, Denmark,
M. Greenbaum
Capstone Clinical Research, Libertyville, IL, USA,
K. Carter
Novartis Pharmaceuticals Corporation, East Hanover, NJ, USA
CW. Chen
Novartis Pharmaceuticals Corporation, East Hanover, NJ, USA
V. Kumar
Novartis Pharmaceuticals Corporation, East Hanover, NJ, USA

SUMMARY:

Introduction: MPH-LA is clinically effective and well tolerated in children with ADHD. Overall clinical improvement in adult ADHD was evaluated as secondary objective in this 40-week, randomized, double-blind, placebo-controlled, multicenter study.

Objective1: (Key secondary objective): Overall improvement of patients on the Clinical Global Impression-Improvement (CGI-I) scale at the end of the 9-week fixed-dose treatment period (TP1) vs placebo
Objective 2: Overall improvement of patients on Clinical Global Impression-Severity (CGI-S) scale at the end of TP1

Objective 3: Tolerability of MPH-LA vs placebo

Methods: The study consisted of three treatment periods (TP). In the 9-week double- blind, parallel-group TP1, 725 patients were randomized (1:1:1:1) to receive MPH-LA 40, 60, or 80 mg/day or placebo qd (3-week titration, 6 weeks fixed dose). TP2 was an open-label 5-week titration period to individual optimal dose. During TP3, patients were re-randomized (3:1) to their optimal dose or placebo in a 6-month double- blind withdrawal period.
Overall clinical improvement at the end of TP1 was measured on the CGI-I scale. Improvement on the CGI-I scale was defined as a visit rating of 1, very much improved or 2, much improved. Other secondary efficacy endpoints were improvement of CGI-S, defined on a 7-point scale as a decrease in the CGI-S rating scale at the end of TP1 and tolerability. Proportion of patients with clinical improvement on the CGI-I and CGI-S scales were analyzed using a logistic regression model.

Results: 863 patients were screened and 725 randomized to 40 (N=181) 60 (N=182), or 80 mg (N=181) MPH-LA and placebo (N=181) in TP1. 56.3%, 54.8%, and 57.1% patients treated with 40, 60 or 80 mg MPH-LA, showed overall improvement from baseline on the CGI-I scale vs 31.7% of patients treated with placebo. Odds ratios [95%CI] MPH-LA vs placebo were 2.44 [1.52, 3.93], p=0.0002; 2.25 [1.40, 3.64], p=0.0009; 2.51 [1.56, 4.05], p=0.0002 for 40 mg, 60 mg and 80 mg MPH-LA. 71.3% 73.7% and 74.2% of patients treated with 40, 60 and 80 mg MPH-LA showed improvement on the CGI-S compared with 48.4% on placebo (odds-ratio [95%CI] = 2.79 [1.73, 4.48]; 3.20 [1.97, 5.22]; 3.24 [1.98, 5.28] for MPH-LA 40, 60, and 80 mg ($p<0.0001$ for all comparisons). 72.8%, 74.0 % and 75.1% of patients treated with 40, 60 and 80 mg MPH-LA compared with 60.0% on placebo reported adverse events (AEs) in TP1. Serious adverse events (SAEs) in TP1 were reported in 0.6%, 1.1%, 0.6 % in MPH-LA 40, 60 and 80 mg vs 1.1% on placebo, 0.4% of all MPH-LA treated patients vs 0% on placebo reported clinically notable changes in systolic and diastolic blood pressure.

Conclusions: Adult ADHD patients treated with MPH-LA 40–80 mg show superior clinical improvement compared with placebo assessed on CGI-I and CGI-S scales. The safety and tolerability results were consistent with the established safety profile for MPH-LA. No unexpected AEs and SAEs were observed in adult ADHD patients.

NR8-35
NEGATIVE COMPARED TO POSITIVE RECENT STRESS YIELDS MORE DEPRESSION IN PATIENTS WITH CHRONIC BIPOLAR DISORDER

Lead Author: Shelley J. Hill, M.S.
Co-Author(s): Shefali Miller MD, Farnaz Hooshmand MD, Jennifer Dore MD, Po W. Wang MD, Natalie Portillo MA, and Terence A. Ketter MD

SUMMARY:
Objective:
Research indicates that stressful life events may exert a greater impact upon bipolar disorder (BD) earlier compared to later in the course of disease. Negative recent stress in particular has been associated with increased risk for depressive episodes among BD patients. We assessed the clinical impact of negative compared to positive recent stress in patients with chronic BD.

Methods:
Stanford University Bipolar Disorder Clinic patients with chronic BD (illness duration ? 10 years), assessed with the Systematic Treatment Enhancement Program for BD (STEP-BD) Affective Disorders Evaluation, and monitored longitudinally with the STEP-BD Clinical Monitoring Form, completed the Psychiatric Epidemiology Research Interview (PERI) Life Events Scale to assess stressful life events during the prior 12 months. Patients with mostly negative stress (greater sum of negative compared to positive PERI stressful event valences) were compared to those with mostly positive stress (greater sum of positive compared to negative PERI stressful event valences) with respect to demographics and illness characteristics. Patients with current psychosis or syndromal mood elevation were excluded to avoid such phenomena confounding PERI assessments.

Results:
Among 70 outpatients with chronic BD (mean±SD age 49.2±12.1 years; illness duration 30.0 ±13.5 years; 64.3% female; 50.0% Type I, 44.3% Type II, 5.7% Type Not Otherwise Specified; with mean annual Clinical Global Impression for Bipolar Disorder-Overall Severity [CGI-BP-OS] score 3.2 ±0.9; and taking 3.8±1.9 prescription psychotropic medications), 33 patients with mostly negative compared to 37 with mostly positive stress were more than 4 times as likely to have current syndromal depression (24.2% versus 5.4%, df=1, Chi-square=5.1, p=0.038), and had approximately 21% higher current (3.4±1.2 versus 2.8±1.0, df=68, t=2.2, p=0.035), and 17% higher mean annual (3.5±0.9 versus 3.0±0.7, df=68, t=2.6, p=0.012) CGI-BP-OS, but did not differ significantly with respect to demographic or other illness characteristic parameters.

Conclusion:
Further study is warranted to determine whether or not negative compared to positive recent stress yields more depression in patients with chronic BD.

NR8-36
OBESITY IN BIPOLAR DISORDER ASSOCIATED WITH OLDER AGE, UNEMPLOYMENT, LONGER ILLNESS DURATION, AND MORE SEVERE CURRENT MOOD SYMPTOMS

Lead Author: Po Wang, M.D.
Co-Author(s): Farnaz Hooshmand MD, Jennifer Dore MD, Shefali Miller MD, Shelley J. Hill, Natalie Portillo MA, MS and Terence A. Ketter MD

SUMMARY:
Objectives:
Obesity has been associated with unfavorable illness characteristics in patients with bipolar disorder (BD). We compared patients with and without obesity entering a tertiary care BD clinic with respect to demographics and illness characteristics.

Methods:
Patients with BPI and BPII referred to the Stanford University Bipolar Disorder Clinic between 2000-2011 and assessed with the Systematic Treatment Enhancement Program for BD (STEP-BD) Affective Disorders Evaluation were compared with respect to demographic and illness characteristics.

Results:
Among 479 BD outpatients with weight and height data (mean±SD age 35.5± 12.7 years; 59.3% female; 47.2% Type I, 52.8% Type II; mean illness duration 18.0±12.7 years; Clinical Global Impression for Bipolar Disorder-Overall Severity (CGI-BP-OS) score 3.9±1.5, and taking 2.7±1.7 psychotropic medications, body mass index (BMI) was 26.8±6.4, 24.4% were obese (BMI?30), 26.3% were overweight (BMI?25 and BMI<30), and 49.3% were not obese or overweight (BMI<25). Obese compared to not obese or overweight patients were older (40.6±13.0 vs. 32.3±12.3, df=351, t=5.8, p<0.0001), more often unemployed (42.7% vs. 28.4%, df=1, Chi-Square=7.3, p=0.008), but more often married (46.2% vs. 35.2%, df=1, Chi-Square=4.0, p=0.049), and had longer illness duration (24.0±14.5 vs. 14.5±11.6, df=351, t=6.6, p<0.0001), and higher current CGI-BP-OS score (4.1±1.4 vs. 3.8±1.5, df=351, t=1.98, p=0.0048). Gender, education, illness subtype, clinical status, age of onset, number of psychotropic medications, psychotropic medication usage (including mood stabilizers or second-generation antipsychotics), history of hospitalization, history of psychosis, history of prior suicide attempt, or history of comorbid psychiatric (alcohol use, substance use, anxiety, eating, and personality) disorders did not significantly differentiate obese from not obese or overweight patients. Overweight patients did not significantly differ from either obese or not obese or overweight patients.

Conclusions:
Further studies are needed to assess our preliminary observations that obesity in BD is associated with older age, unemployment, longer illness duration, and more severe current mood symptoms compared to not obese or overweight patients.
Support:

This research was conducted with support from the Pearlstein Family Foundation.

NR8-37
PERCEPTIONS OF FAMILY ENVIRONMENT IN PATIENTS WITH BIPOLAR DISORDER AND THEIR CAREGIVERS COMPARED TO HEALTHY CONTROLS

Lead Author: Deimante McClure, B.A.
Co-Author(s): AMR Lee, J Bobish, S Joseph, M Foley, L Cohen, I Galynker

SUMMARY:
Introduction: Studies have shown that family environment and the symptoms of bipolar disorder can have a significant effect on one another. Family-oriented treatments can impact family relationships and thereby improve outcomes for patients and families. Divergent perceptions of the family environment between patients and their caregivers may pose challenges to family-oriented treatment. In the present study, we compared perceptions of family characteristics in bipolar patients, their caregivers, and healthy controls, in order to explore their differing perceptions of the family environment.
Methods: Patients diagnosed with Bipolar Disorder by SCID-P were recruited from the Family Center for Bipolar in New York City as part of a larger study of Family-Inclusive Bipolar Treatment. At study intake, family environment was assessed using the Family Adaptability and Cohesion Evaluation Scale (FACES IV) and the Family Environment Scale (FES). Both patients' and caregivers' responses on FACES subscales and FES subscales of cohesion and conflict were compared to those of healthy controls. Additionally, patients and caregivers were compared with one another, excluding non-family member caregivers.

Results: Twenty-one patient, 22 caregivers and 24 healthy controls were recruited. Patients were diagnosed with Bipolar I (50.0%), Bipolar II (40.9%) and Bipolar NOS (9.1%). Caregivers were 47.6% spouse or partner, 23.8% parent, 19% sibling and 9.5% friend. Patients differed significantly from controls in the direction of more family pathology in all subscales except FACES cohesion, disengagement, and rigid. Compared with controls, caregivers (and patients) reported lower level of family satisfaction (p=.005, p=.031), lower level of FES cohesion (p=.009, p=.028), higher level of conflict (p=.000, p=.000). Compared with caregivers, patients reported higher level of disengagement (p=.04) and higher levels of chaotic environment (p=.005).
Discussion: Both bipolar patients and their caregivers perceived lower levels of family satisfaction and cohesion, and higher levels of conflict in their families compared to healthy controls. However, bipolar patients perceived their families as more pathological compared to their caregivers' perceptions. In particular, patients and caregivers differed significantly on perceptions of the level of chaos and disengagement in the family, with patients reporting more of both. These results could inform family-involved treatment in bipolar families.
Key Words: Bipolar Disorder, Family Environment, Cohesion, Control

NR8-38
PERSONALITY TRAITS AND TREATMENT OUTCOMES IN A BIPOLAR DEPRESSION CLINICAL TRIAL

Lead Author: Gary S. Sachs, M.D.
Co-Author(s): C. Siu; J. Cucchiaro; R. Silva; F. Grossman; J. Hsu; A. Kalali; A. Loebel

SUMMARY:

Objective

The relationship between personality traits and the effects of psychotropic drug therapy have been infrequently investigated. The objective of this post-hoc analysis was to investigate the relationship between personality factors and treatment outcomes in a randomized, 6-week, double-blind, placebo-controlled study of lurasidone for the treatment of bipolar I depression.

Methods

Subjects meeting DSM-IV-TR criteria for bipolar I depression, with or without rapid cycling, with a Montgomery-Asberg Depression Rating Scale (MADRS) score ?20 and a Young Mania Rating Scale (YMRS) score ?12, were randomized to 6 weeks of once-daily, double-blind treatment with lurasidone 20-60 mg, lurasidone 80-120 mg, or placebo (PBO). Personality traits were assessed by the NEO Five-Factor Inventory (NEO-FFI) which includes Neuroticism (N), Extraversion (E), Openness to experience (O), Agreeableness (A), and Conscientiousness (C). Forty NEO personality styles were defined by scores above and below the average range on two personality domains (Costa and McCrae, 1998). Statistical interaction tests were applied to evaluate personality traits as predictors of treatment response.

Results

Baseline distributions of the personality T-scores showed a majority of patients had high (52.2%) or very high (33.6%) Neuroticism (N), but low or very low T-scores for Extraversion (E) (81.2%), Openness to experience (O) (51.3%), Agreeableness (A) (83.9%), or Conscientiousness (C) (85.6%). Of the 40 personality styles, patients with bipolar 1 depression were characterized by 10 dominant traits of combined NEO-FFI factors (with >60% of patients in each style subgroup): gloomy pessimists (high Neuroticism and low Extraversion), maladaptive (high Neuroticism and low Openness), temperamental (high Neuroticism and low Agreeableness), lack of impulse control (high Neuroticism and low Conscientiousness), lethargic (low Extraversion and low Conscientiousness), preferring solitary pursuits to social contact (low Extraversion and low Openness), as well as “keep to themselves” (low Extraversion and low Agreeableness). Statistical treatment-by-style interaction tests showed that 3 personality trait combinations predicted greater treatment benefits of lurasidone (20-60 mg/d or 80-120 mg/d vs. placebo), as assessed by endpoint reductions in MADRS scores: (1) Gloomy Pessimists [high N low E] (p=0.022) , (2) Undercontrolled [high N low C] (p=0.046), and (3) Lethargic [high E low C] (p=0.014).

Conclusions

Our findings suggest a high level of Neuroticism combined with low levels of Extraversion or Conscientiousness were associated with favorable outcomes of lurasidone monotherapy, in the treatment of depressive episodes associated with bipolar I disorder. These results suggest personality traits may be an important moderator of treatment response and potentially could be utilized as a predictor of clinical outcomes.

NR8-39

PREDICTIVE EXECUTIVE FUNCTIONING MODELS USING INTERACTIVE TANGIBLE-GRAPHICAL INTERFACE DEVICES

Lead Author: Monika Heller, M.D.
Co-Author(s): Kurt Roots, MBA, MS
Jaideep Srivastava, PhD
Kathryn Cullen, MD
Jennifer Schumann, MD
Sanjana Srivastava
Jonathan Jensen, MD

SUMMARY:

Introduction: Current diagnostic aids for ADHD largely rely on subjective measures and some computer based tools that are high cost, have limited engagement and consequently limitations of sensitivity and specificity and limited ability to differentiate from common comorbidities that also have executive function deficits. Groundskeeper is a videogame using a distributed tangible graphical device that is highly engaging and also uses principles of distributed cognition to further increase player engagement, and thus improving sensitivity and specificity of detecting executive functioning deficits. The game has also been able to identify specific patterns of behavior for Anxiety and Depression, thereby decreasing the risk of misdiagnosis of the patient. The use of this game in clinical practice can be used for better identification of these disorders. Due to the ability of the game to analyze the data, the need for additional staff to interpret results is reduced. This also allows the game to be used in a broader range of settings including schools, primary care, pediatrician offices, and various mental health settings.

Methods. Primary data was collected at two outpatient psychiatry clinics over 6 months from patients who played a game, developed by the game company CogCubed. Through a clinical trial at the University of Minnesota, the efficacy of the game was evaluated for a population of 50 patients, ages 6 to 17, age and gender matched with or without ADHD. Subjects having comorbidities of Anxiety, Depression, and Autism Spectrum Disorders were also included in the study. Parents and teachers also completed Conner’s Brief Parent/Teacher Inventories, and information was collection regarding grade level and medications. Medications for ADHD were held for testing. Novel data mining techniques were applied to build several predictive models, separating ADHD into Inattention and Hyperactivity symptoms. Additional models were created for Anxiety and Depression. After patients played the game, data was automatically uploaded to a secure central sever. The data was then de-identified and provided to the University of Minnesota for analysis. Data was transformed into a feature space for analysis.

Results. Novel data mining techniques were applied to build several predictive models, separating ADHD into Inattention and Hyperactivity symptoms. The results show that Hyperactivity is characterized by a greater number of commissions, delayed response time, and increased movement especially when a visual-spatial challenge is introduced compared to

control. Inattention profile is characterized by a greater number of omissions, poorer adaptation to the learning curve in regard to reaction time, and more movement overall, especially when visual-spatial challenge is introduced compared to control. Additional models were created for Anxiety and Depression. The depression profile is characterized by drastically reduced player movement and delayed reaction time

NR8-40
PREVALENCE OF PSYCHIATRIC DISORDERS IN PERINATALLY-INFECTED, HIV-POSITIVE CHILDREN.

Lead Author: Mehr Iqbal, M.D.
Co-Author(s): Burhanullah, M.H.MD , Mani S, Isawi D, Minasourial

SUMMARY:

Background: Mental health problems during adolescence place youth at a heightened risk for chronic mental health disorders and risky sexual behavior in adulthood Among the behavioral health risks shared by both groups of youth, mental health problems were the most prevalent for perinatally exposed HIV+ (PHIV+) youth. The prevalence of mental health problems in our study is greater than expected relative to surveys in the general population, but comparable to the few studies of children living with perinatal HIV infection or uninfected children living with HIV+ infected caregivers.
Methods In a review of eight studies examining DSM-IV defined psychiatric disorders in HIV + youth (ages 4-21) high rates of psychiatric disorders were found in these youth groups, significant for: ADHD – 29%, Depression – 25% and Anxiety – 24%. Results were compiled specific to child psychiatric disorders, anxiety and behavioral disorders were the most frequent co-morbidity.
Results: Anxiety disorders included social and specific phobias, separation anxiety, agoraphobia, GAD and OCD. Perinatally HIV+ (PHIV+) youth were three times more likely to report a mood disorder and two times more likely to report ADHD compared to perinatally HIV- (PHIV-) youth. Overall, the literature review indicates both PHIV+ and PHIV- youth had extremely high rates (~70%) of any psychiatric disorder in one point in time or the other (either at baseline, or through follow up). These rates are also similar to those reported in the IMPAACT study in which 61% of both PHIV+ and PHIV- youth presented with a psychiatric disorder at one point of time. Taken together, these findings suggest that PHIV+ youth are at high risk for mental health problems.. These results may be due to the psychosocial stressors associated with youth. Having HIV or being in a household with HIV-infected caregivers, rather than the biological course of HIV itself. .
Conclusion: The prevalence of any psychiatric disorder significantly decreased in PHIV+ youth whereas for PHIV- youth, the prevalence of any disorder remained the same and mood disorders increased over time. These data suggest that perinatal HIV infection may not increase the risk of psychiatric disorders as these youth age, but access to treatment may be one explanation for the decrease in disorders as most PHIV- youth have been engaged in comprehensive HIV programs throughout their lifetime, typically attending clinics every 1-3 month and interacting with a large variety of healthcare providers. Furthermore, children with HIV infection have additional risk factors for mental illness, including forced disclosure of HIV status to others, including fear of progression to AIDS, and body image concerns resulting from delayed development, chronic dermatologic conditions or lipoatrophy. Moreover, infected HIV+ youth and the possible types of evidence based treatments needed to reach this select group of individuals.

NR8-41
RISK FACTORS FOR EARLY CIRCULATORY MORTALITY IN BIPOLAR DISORDER

Lead Author: Shang Ying Tsai, M.D.
Co-Author(s): Chian-Jue Kuo, M.D.; Kuo-Hsuan Chung, M.D.; Wen-Cheng Wu,M.D.; Shou-Hung Huang, M.D.; Pao-Huan Chen, M.D.

SUMMARY:

Objective: Circulatory diseases are the principal causes of premature mortality in major psychiatric disorder. Many of the prior mortality studies on bipolar disorder have emerged primarily from the large health service groups, with a tendency to focus on suicide alone. This study examines personal and clinical characteristics of the bipolar patients in order to identify the factors associated with early natural death from circulatory diseases.
Method: All bipolar patients admitted to a psychiatric teaching hospital or psychiatric ward of university hospital in Taiwan between 1987 and 2010 were retrospectively followed through record linkage for cause of death. Patients dying from circulatory causes (cardiovascular diseases [ICD 401-429], cerebrovascular diseases [ICD 430-438], and vascular diseases [ICD 440-443]) before the age of 65 years were enrolled. One living bipolar individual was matched to each deceased patients as a control subject for age, sex, and date of index admission. Clinical data and the results of laboratory examinations during the last period of acute hospitalization were obtained through a review of medical records.
Results: We recruited a total of 102 bipolar patient who admitted at the mean 50.0± 17.1 years old and died at the mean age of 56.6± 14.0 years in this study. Conditional logistic regression revealed the variables most strongly associated with premature circulatory mortality were heart rate at the first day of last acute admission (95% CI for odds ratio [OR]= 1.01 to 1.09) and serum aspartate aminotransferase (AST, formerly SGOT) level of the last acute admission (95%CI for OR= 1.00 to 1.09). There is no significance in Framingham risk score and variables of 12-lead electrocardiography between deceased patients and living controls.
Conclusions: Unique risk factors for circulatory mortality in bipolar patients may exist, unlike Framingham risk score and rate-corrected QT interval (QTc) for general population. Cardiac dysfunction due to patho- physiology of bipolar disorder reflected by increasing heart rate and AST level in the acute phase may be risk factors for circulatory mortality before reaching geriatric age.

NR8-42
SEVERITY OF ANXIETY SYMPTOMS REPORTED BY BORDERLINE PATIENTS AND AXIS II COMPARISON SUBJECTS OVER 16 YEARS OF PROSPECTIVE FOLLOW-UP

Lead Author: Margaux Bruzzese, B.S.
Co-Author(s): Frances R. Frankenburg, M.D.
Garrett M. Fitzmaurice, Sc.D.
Mary C. Zanarini, Ed.D.

SUMMARY:
Objective: The purpose of this study was to determine the course of anxiety symptoms and their predictors among patients with borderline personality disorder and comparison subjects with other personality disorders over 16 years of prospective follow-up.
Methods: A total of 362 inpatients were assessed using semistructured interviews and self-report measures during their index admission. Of these inpatients, 290 met criteria for borderline personality disorder and 72 comparison subjects met criteria for other axis II disorders. The severity of anxiety symptoms were assessed at baseline and every two years for 16 years using the Dysphoric Affect Scale. Predictors related to temperament were assessed using the NEO Five-Factor Inventory, which was administered at baseline and every two years for 16 years. Predictors related to childhood adversity were assessed using the Revised Childhood Experiences Questionnaire, which was only administered at baseline.
Results: Borderline patients reported approximately twice as severe symptoms of being anxious (RD = 2.1), scared (RD = 2.2), terrified (RD = 2.3), and completely panicked (RD = 2.3) as axis II comparison subjects over time. However, these symptoms decreased significantly over time for those in both groups, with relative declines ranging from 39% for anxious to 75% for terrified. Four variables were found to be significant bivariate predictors of severity of overall anxiety: childhood abuse other than sexual abuse, childhood neglect, and trait neuroticism and extraversion. Two of these variables remained significant in multivariate analysis: childhood abuse other than sexual abuse and trait neuroticism.
Conclusions: The results of this study suggest that anxiety symptoms form a distinct but diminishing profile for those with BPD. Both childhood adversity and temperament seem to be strong predictors of the severity of anxiety symptoms.

NR8-43
SIMILARITY AND DIFFERENCE BETWEEN SUICIDALITY AND NUMBER OF COMORBIDITIES AND DEPRESSION/ANXIETY SEVERITY IN PATIENTS WITH MDD OR BIPOLAR DISORDERS

Lead Author: Keming Gao, M.D., Ph.D.
Co-Author(s): Zuowei Wang, MD, PhD, Jun Chen MD, PhD, Philip K. Chan, MS, Carla M. Conroy, BA, Mary Beth Serrano, MA, David E. Kemp, MD, Stephen J. Ganocy, PhD, Joseph R. Calabrese, MD.

SUMMARY:
Objective: Suicidal behaviors are common in patients with mood disorders. Previous studies have shown that risk factors for suicidal behaviors include the number of Axis I comorbidities, comorbid anxiety disorders, and increased depression/anxiety symptom severity. This study is to explore the relationship between suicidality and the number of Axis I comorbidities and depression/anxiety severity in patients with major depressive disorder or bipolar disorders.
Methods: Diagnoses of major depressive disorder (MDD), bipolar disorders (BPD), and other Axis I disorders in routine clinical outpatients were ascertained with the Mini International Neuropsychiatric Interview (MINI) Systematic-Treatment-Enhancement- Program for BPD version 5.0.0. Self-reported suicidal ideation (SR-SI) was measured with the Item 12 of the Quick Inventory of Depression Symptomatology -16 Items Self-Report (QIDS-16-SR) and clinician-assessed suicidal ideation (CA-SI) and attempted suicide were measured with the Suicidality Module of the MINI. The severity of depression and anxiety was measured with QIDS-16-SR and Zung's Anxiety Rating scale, respectively. The overall illness severity was measured with Clinical Global Impression-Severity (CGI-S). Baseline data from the first 300 patients were analyzed.
Results: Of 147 patients with BPD and 103 with MDD , the incidence of past suicide attempt was not significantly different between two groups, 20.4% versus 17.3%. However, the rates of any SR-SI and any CA-SI were significantly higher in patients with BPD than those with MDD, 37.1% versus 21.4% with an OR of 2.2 (95% CI 1.2 to 3.9) and 18.4% versus 3.9% with an OR of 5.6 (95% CI 1.9 to 16.5), respectively. The number of current and lifetime Axis I comorbidities was positively associate with past suicide attempt and SR-SI in patients with BPD, but not in those with MDD. Patients with BPD and 4 or more comorbidities had significantly increased risk for SR-SI than their bipolar counterparts without comorbidity with an OR of 5.4 (95% CI 1.6 to 18.0). Both groups of patients had positive associations between SR-SI and baseline QIDS-16-SR total scores and CGI-S scores. In MDD, compared to patients with mild depression symptoms, those with severe depression had significantly increased risk of any SR-SI with an OR of 10 (95% CI 2.3 to 42.7). In patients with BPD, compared to patients with mild depression symptoms, those with severity depression had significantly increased risk of any SI with an OR of 16.9 (95% CI 5.2 to 54.5). A positive association between Zung's scores and any SR-SI was observed in patients with MDD, but a bell-shape association between Zung's scores and any SR-SI was observed in patients with BPD.
Conclusion: These data suggest that the incidence of past suicide attempt in patients with MDD or BPD was similar, but the number of Axis I comorbidities and depression/anxiety severity may play a different role in suicidality in patients with mood disorders.

NR8-44
SLEEP AND NEUROCOGNITIVE FUNCTION OF ATTENTION-DEFICIT/HYPERACTIVITY DISORDER PATIENTS

Lead Author: Jong-Hyun Jeong, M.D., Ph.D.
Co-Author(s): Seung-Chul Hong1, MD, Mi-Jin Lee1, MD, Joo-Hee Han1, MD, Bo-Hyun Yoon2, MD, PhD

1Department of Psychiatry, St. Vincent Hospital, College of medicine, The Catholic University of Korea, Suwon, Korea
2Department of Psychiatry, Naju National Hospital, Naju, Korea

SUMMARY:
Objectives: Attention-Deficit/Hyperactivity Disorder (ADHD), the most common behavior disorder of childhood, is characterized by a pattern of diminished sustained attention and higher level of impulsivity. About 25-50% of ADHD patients were reported to have sleep problems including higher level of nocturnal activity, longer sleep latency, lower sleep efficiency, more frequent night awakenings and shorter total sleep time. However, there is a lack of consistent results of any significant sleep problems but higher number of sleep movement and night-to-night variability from objective data although the self- or parental reports have suggested higher rates of sleep problems. This study was to ascertain the nocturnal sleep disturbances and neurocognitive funtions in patients with ADHD.
Methods: The subjects were 24 patients with ADHD and 12 control children (7 - 12 year-old boys). We tested them by Neurocognitive function test to ascertain the appropriacy of two groups and applied actigraphy to get sleep variables and compare sleep disturbances for 72 hours. In addition, we assessed the correlation factors between sleep variables and Neurocognitive functions.
Results: 1) In MFFT (Matching Familiar Figures Test), the patients with ADHD manifested significantly increased response error (58.71 ± 28.16 percentile vs. 35.20 ± 26.49 percentile) (p=0.038) and response latency (69.71 ± 23.57 percentile vs. 49.70 ± 24.58 percentile) (p=0.042) compared with control children. Also, the patients with ADHD required more time for TMT-B (Trail Making Test B) than controls and the difference were statistically significant (164.2 ± 90.88 sec. vs. 79.0 ± 55.08 sec.) (p=0.043).
2) In sleep variables by actigraphy, the sleep latency (21.57 ± 24.28 min. vs. 5.81 ± 4.69 min.) (p=0.005), WASO (wake after sleep onset) (62.01 ± 18.56 min. vs. 47.00 ± 15.08 min.) (p=0.039) and fragmentation index (17.28 ± 5.41% vs. 12.45 ± 4.88%) (p=0.048) were significantly increased in patients with ADHD compared with controls. There were no significant differences in total sleep time and sleep efficiency.
3) In patients with ADHD, there was negative correlation between the time for TMT-A (Trail Making Test A) and verbal IQ (intelligence quotient) (rho=-0.653, p=0.029). Also, two sleep variables, WASO (rho=0.525, p=0.012) and fragmentation index (rho=0.470, p=0.027) showed significantly positive correlation with the response error in MFFT.
Conclusions: The patients with ADHD had more sleep problems and results of this study suggested that they have significantly increased sleep latency, WASO and fragmentation index compared with controls. And in the patients with ADHD, some sleep problems including WASO and fragmentation index showed positive correlation with results of MMFT among Neurocognitive function tests.

NR8-45
STRESS AND THE ONSET OF AFFECTIVE EPISODES IN PATIENTS WITH BIPOLAR DISORDER

Lead Author: Madeleine Foley
Co-Author(s): A Lee, J Bobish, D McClure, S Joseph, I Galynker

SUMMARY:
Stress and the onset of affective episodes in patients with Bipolar Disorder
Beth Israel Medical Center, New York, NY, USA
M Foley, A Lee, J Bobish, D McClure, S Joseph, I Galynker

Intro:
The relationship between life stressors and bipolar disorder (BPD) is well-known but not as well understood. Many studies have linked stressful life events to the onset of bipolar episodes, and stress has been demonstrated to delay patients' recovery from affective episodes. However, few studies have characterized the specific types of stressors experienced by bipolar patients before manic and depressed episodes. In this study, we assessed patients' self-reported experiences of stress prior to their first, most recent, and most severe manic and depressive episodes.

Methods:
Patients were recruited from the Family Center for Bipolar in New York City as part of a larger study of Family-Inclusive Bipolar Treatment. All patients were diagnosed with Bipolar Disorder (I, II, or NOS) using the Structured Clinical Interview for DSM-IV, Patient Edition (SCID-IP). At study intake, participants were administered a semi-structured interview to acquire data about the patients' experiences of life stressors in the 3-month period prior to their first, most recent, and most severe manic and depressive episodes. Stresses reported by patients were classified by interviewers according to the stress categories found in DSM-IV.

Results:
21 patients were recruited and provided stress data. Sixteen patients (72.7%)reported experiencing at least one stressor prior to their 1st episode of depression, 14 (66.7%) before their most severe episode of depression, and 13 (59.1%) before their most recent episode of depression. Thirteen patients (61.9%) reported experiencing at least one stressor prior to their 1st episode of mania, 11 (50%) before their most severe episode of mania, and 11 (50%) before their most recent episode of mania. The most common stressor experienced prior to all depressive episodes and most manic episodes was "problems with primary support group," followed by "problems with social environment." Stress related to "problems with the legal system/crime," and "educational problems" were rarely reported. Though not statistically significant, it was notable that stress was more commonly reported prior to depressive episodes compared to manic episodes.

Discussion:
In this study, we aimed to characterize the types of stress-

ors experienced by bipolar patients prior to selected illness episodes. We found that depressive episodes appeared to be linked to stressors more often than manic episodes. "Problems with primary social support group" and "problems with social environment" more frequently preceded affective episodes compared with stressors such as "problems with the legal system/crime," and "educational problems". This finding is consistent with the idea that social stressors are particularly important in the development of affective episodes compared with other types.

NR8-46
THE ASSOCIATION BETWEEN BRAIN METABOLITES AND CLINICAL MEASURES IN ADULTS WITH BORDERLINE PERSONALITY DISORDER

Lead Author: Alaa Houri, B.S.
Co-Author(s): Kathryn Cullen, M.D.
S. Charles Schulz, M.D.

SUMMARY:
Introduction: Borderline Personality Disorder (BPD) is a mental illness characterized by psychological and social dysregulation. Symptoms of BPD include impulsivity, unstable relationships and emotions, and low self-esteem. Patients with BPD have shown to engage in greater impulsive and risk-taking behaviors (1). The anterior cingulate cortex (ACC) is a frontal cortical region that has been implicated in borderline features such as cognitive and affective processes (2). The authors examined the correlations between BPD symptom severity measures in adults and metabolites found in the ACC as acquired through Proton Magnetic Resonance Spectroscopy (1H-MRS).

Methods: Eighteen participants were enrolled in this study and have completed diagnostic measures to confirm a BPD diagnosis. The measures include the Symptom Checklist-90 (SCL-90) and the Zanarini Rating Scale for Borderline Personality Disorder Interview (ZAN-BPD). The ZAN-BPD is a clinical scale that assesses the overall symptomatology of BPD (3). 1H-MRS scans were acquired from each participant to measure brain metabolites using a 3.0 Tesla Siemens scanner. A 1.5 x 1.5 x 1.5 cm3 voxel was positioned in the central ACC. Pearson correlations were completed between the metabolites and diagnostic measures.

Results: A significant negative correlation was found between the ZAN-BPD total score and choline-containing compounds such as phosphorylcholine and glycerophosphorylcholine (tCho; p=0.020, r=-0.541). Further analyses revealed significant negative correlations between tCho and the ZAN-BPD total relationship (p=0.023, r=-0.532) and ZAN-BPD total impulsivity (p=0.045, r=-0.478) subscales. In addition, N-acetylaspartate (NAA) was significantly negatively correlated with the SCL-90 phobic anxiety subscale (p=0.038, r=-0.507).

Conclusions: We report an inverse relationship between two key neurochemicals in the ACC and clinical features of BPD. Our findings suggest that relationship problems and impulsivity may be related to deficits in the cell membrane, whereas phobic anxiety may be linked to neuronal integrity in patients with BPD. Future work will examine how these clinical measures relate to 1H-MRS data in a healthy comparison group, and to determine whether the pattern of these relationships differs across diagnostic groups.

(1) Schuermann, B., Kathmann,N., Stiglmayr, C., Renneberg, B., & Endrass, T., 2011. Impaired decision making and feedback evaluation in borderline personality disorder. Psychological Medicine 41, 1917-1927.
(2) Yucel, M., Harrison, B.J., Wood, S.J., Fornito, A., Clarke, K., Wellard, R.M., Cotton, S., Pantelis, C., 2007. State, trait, and biochemical influences on human anterior cingulate function. NeuroImage 34, 1766-1773.
(3) Zanarini, M. C., 2003. Zanarini rating scale for borderline personality disorder (ZAN-BPD): A continuous measure of DSM-IV borderline psychopathology. Journal of Personality Disorders 17 (3), 233-242.

NR8-47
THE AUTISM MENTAL STATUS EXAM: VALIDATION IN AN ADULT POPULATION USING DSM-5 CRITERIA

Lead Author: David Grodberg, M.D.
Co-Author(s): Danielle Halpern, Psy.D.
Paige Weinger, Ph.D.

SUMMARY:
Background: The diagnosis of autism spectrum disorder (ASD) in adults is unreliable due to the lack of a brief observational tool that is validated to the gold standard ASD diagnostic assessment. The wider recognition of ASD in adults reflects clinicians' increased knowledge as well as a growing availability of evidence-based treatments and research protocols. Yet the diagnosis can be challenging in this underserved and under-studied population. The Autism Mental Status Exam (AMSE) was developed to address the lack of standardized observational assessment for ASD in non-academic settings. The AMSE is a brief diagnostic observational tool that structures the way we observe and record signs and symptoms of ASD. Initial validation indicates that the AMSE has excellent inter-rater reliability and classification accuracy when compared to the Autism Diagnostic Observation Schedule (ADOS).
Objective: To determine sensitivity and specificity of AMSE cutoff scores in predicting independent diagnosis of ASD using proposed DSM-5 criteria.
Methods: 40 subjects age 18-44 received diagnostic testing as part of the assessment protocol at the Seaver Autism Center at Mount Sinai School of Medicine. Each subject first received a clinical evaluation by a psychiatrist with expertise in ASD diagnosis during which the AMSE was administered. The subject was then administered an ADOS in a different exam room by a psychologist who was blind to the AMSE score or the psychiatrist's diagnostic impressions. When feasible, an ADI-R was also administered. Best Estimate Clinical Diagnosis (BECD) was then ascertained by an independent clinician. BECD protocol involved communication with the ADOS and ADI-R examiners. The BECD clinician remained

blind to the psychiatrists' AMSE scores but was provided clinical notes that were limited to review of symptom domains, current medications, and medical history. The proposed DSM-5 criteria were then used to guide the BECD clinician's diagnostic formulation of ASD vs. non-ASD.
Results: Within this high-risk sample, 52.8% of participants met criteria for a diagnosis of autism spectrum disorder based on research diagnostic instruments (ADOS, ADI) and proposed DSM-5 criteria. Diagnostic accuracy was assessed by the nonparametric measure of area under an ROC curve. The ROC curve analysis was used to determine a criterion cut-off score based on AMSE total scores. Area under the ROC curve was 0.99 (95% confidence interval [CI]: 0.96–1.0). This indicates that the AMSE was able to differentiate between ASD and non-ASD diagnoses. The most effective cut-off score was estimated at a total score of greater than or equal to 5. This cut-off score produced a sensitivity of 100% and a speci?city of 95% in this high-risk population. Total AMSE scores for non-ASD participants ranged from 0 to 5 and total AMSE scores for ASD participants ranged from 5 to 8.
Conclusions: The AMSE holds promise as a brief diagnostic observational assessment for ASD.

NR8-48
THE RELATIONSHIP BETWEEN CIRCADIAN RHYTHM AND PERSONALITY CHARACTERISTICS; A LOWER TENDENCY OF PSYCHOTICISM AND NEUROTICISM IN MORNING TYPE PEOPLE

Lead Author: Bogeum Kong
Co-Author(s): Sun-jung Kim , Tae Hoon Kim , Si-hyung Park , Hyung-seok Seo , Ho-bin Lee , Hyun-seok Jung , Sung-woo Cho, Si-wan Cho

SUMMARY:

OBJECTIVES: Nowadays people are interested in morningness and eveningness, a portion of circadian rhythm. The purpose of our study was to assess the relationship between circadian rhythm and personality characteristics.
METHODS: A total of 534 university students were administered, but data analysis was based on 481 students who gave reliable information. Our questionnaires were composed of sleep questionnaires regarding the circadian rhythm scale, Eysenck's Personality Questionnaire, and life style questionnaires regarding an aspect of sleep and eating habit. Firstly, we tested the possible relationship between circadian rhythm and each personality dimension(psychoticism, extraversion, neuroticism, lie) by Pearson's product moment correlation. Secondly, we decided the eveningness by 10 percentile of the score on circadian rhythm scale and the morningness by 90 percentile. The score of each personality dimensions along three groups of circadian rhythm were investigated by ANOVA. Thirdly, the patterns of circadian rhythm along different lifestyle were observed.
RESULTS: Each personality dimensions was low correlated with the score of circadian rhythm. Psychoticism was negatively correlated with the score of circadian rhythm (r=-0.174, p=0.000). Neuroticism was negatively correlated with the score of circadian rhythm (r=-0.186, p=0.000). Lie was positively correlated with the score of circadian rhythm (r=0.145, p=0.001).
Morningness was 41 and above at the score of circadian rhythm. And eveningness was 25 and below at the score of circadian rhythm. Psychoticism had a significantly difference among three groups of circadian rhythm(F=9.991, p=0.000). Neuroticism had a significantly difference among three groups of circadian rhythm(F=4.064, p=0.018). Lie had a significantly difference among three groups of circadian rhythm(F=4.559, p=0.011).
CONCLUSIONS: The morningness has a lower tendency of psychoticism and Neuroticism than that of the eveningness. Circadian rhythm is controlled by a biological clock, but it can be modified by exogenous zeitgeber. Therefore, We conclude that people make efforts to be morningness for sound mental health.

NR8-49
TRIGEMINAL NERVE STIMULATION (TNS) FOR ATTENTION-DEFICIT/HYPERACTIVITY DISORDER: A PILOT FEASIBILITY STUDY

Lead Author: James McGough, M.D., M.S.
Co-Author(s): Alexandra Sturm, B.S., Sandra Loo, Ph.D., Andrew Leuchter, M.D., Ian Cook, M.D.

SUMMARY:

Objective: Adult studies of trigeminal nerve stimulation (TNS) for medication-refractory depression have revealed selective improvements in concentration and attention, as well as PET demonstrated cortical activation in regions implicated in attention and executive function deficits. Building on these findings, we conducted a preliminary feasibility study of TNS for children and adolescents with Attention-Deficit/Hyperactivity Disorder (ADHD). Study aims assessed 1) potential effects of TNS on ADHD symptoms, 2) potential effects on cognition and executive functioning, and 3) the potential tolerability and acceptability of TNS therapy in ADHD-affected youth. Method: 20 participants with ADHD aged 7-14 years received an 8-week trial of TNS therapy. Adhesive electrode pads were placed externally on the forehead over the trigeminal nerve and connected by thin wires to an external stimulator worn on the patient's clothing. The stimulator used a nine-volt lithium battery to emit a low-grade current, which subsequently stimulated the trigeminal nerve. Participants underwent TNS each night during sleep, and were assessed weekly with repeated parent- and physician-completed measures of behavior and executive functioning, computerized tests of working memory and response inhibition, and structured assessments of treatment compliance, side-effects, and adverse events. Results: Robust improvements in ADHD symptoms were found on the parent-completed Conners ADHD Index (F=5.9, df=2/35, p<.001) and the investigator-completed ADHD-IV Rating Scale (F=34.3, df=2/35, p<.001). On the Clinical Global Impression (CGI) scale, 75% were improved or very much improved at week 8. Significant improvements were also noted on most subscales of the parent-completed Behavior Rating Inventory of Executive Functioning (BRIEF). Improvements were seen on computerized cognitive measures, including the Attention Network Task (ANT) measure Incongruent Reaction

Time (F=6.0, df=2/33, p=.006) and the Sternberg Spatial Working Memory measure Load 3 Reaction Time (F=3.3, df=2/35, p=.05). Additional measures of working memory had suggestive trends for improvement. There were no difficulties with treatment adherence or adverse events. Conclusions: TNS therapy for youth with ADHD appears to be both feasible and without significant risk. Subjective improvements on ratings of behavior and executive function in this uncontrolled pilot suggest a potential role for TNS in treating ADHD that merits further investigation. These subjective findings are further supported by positive changes in computerized measures of response inhibition and working memory, which are less likely to reveal placebo effects in this open-trial design and which suggest positive changes in brain function. Future research should evaluate TNS dose effects, time to response, and time to offset of response in anticipation of designing definitive blinded randomized controlled studies.

NR8-50
PSYCHIATRY RESIDENT IN-TRAINING EXAMINATION (PRITE) PERFORMANCE AND ATTENDING'S EVALUATION ON RESIDENT'S PSYCHIATRIC KNOWLEDGE

Lead Author: Ji Su Hong, M.D.
Co-Author(s): Jacob Sperber, MD.
Gregory Haggerty, Ph.D.
Joshua Fogel, Ph.D.

SUMMARY:
Objective: The goal of this study is to evaluate the relationship between objective tests of knowledge (PRITE score) and attendings' subjective evaluations on residents' psychiatric knowledge.

Methods: Three attending psychiatrists evaluated 14 psychiatric residents (PGY 3 and PGY 4) in Nassau University Medical Center. Demographic data of each attending and resident were obtained. Each resident's 2011 PRITE score was collected. The authors have developed the Scale of Resident's Psychiatric Knowledge (SRPK). This scale was used by 3 attending psychiatrists to evaluate each resident's psychiatric knowledge. This scale consists of two parts. 1) Scoring resident's psychiatric knowledge on 13 psychiatric competency areas. 2) Evaluating attending's factor on scoring resident's psychiatric knowledge. Demographic information, each resident's PRITE score and each resident's SRPK by 3 attendings were collected for data analysis. Spearman correlation coefficient was obtained to measure the correlation between PRITE score and SRPK score. Intra-class Correlation Coefficient (ICC) was measured for inter-rater reliability of SRPK.

Results: Rho between PRITE score and mean SRPK score of 3 attendings was 0.496 (P= 0.071). Rho between SRPK score by attending 1 and PRITE score was 0.716 (P=0.004). Rho between attending 1's estimation on resident's PRITE score and resident's PRITE score was 0.718 (P=0.004). Rho between attending 2's estimation on resident's PRITE score and resident's PRITE score was 0.638 (P=0.014). There was significant correlation between SRPK score and resident's likability in all 3 attendings (Evaluator 1: Rho=0.591, P=0.026. Evaluator 2: Rho=0.565, P=0.044. Evaluator 3: Rho=0.655, P=0.011). ICC of SRPK was 0.710.

Conclusion: There was no statistically significant correlation between PRITE score and mean SRPK score. One attending's evaluation in SRPK was well correlated with PRITE score. Two attendings' estimations on resident's PRITE score were well correlated with resident's PRITE score. There was significant correlation between SRPK score and resident likability in all 3 attendings. In the future, we need further study with other residency programs, more years of PRITE examination, more subjects and more evaluators.

NR8-51
PERIOD PREVALENCE OF STIMULANT AUGMENTATION AMONG ADOLESCENTS WITH ADHD IN A U.S. MANAGED CARE POPULATION DURING 2009 AND 2010

Lead Author: Vanja Sikirica, M.P.H., Pharm.D.
Co-Author(s): Keith Betts, Paul Hodgkins, Zhou Zhou, Jipan Xie, Anthony DeLeon, MH Erder, Eric Q. Wu

SUMMARY:
Objective

Stimulants are recommended as a first-line treatment for attention deficit/hyperactivity disorder (ADHD) patients; however, a subset of the patient population augments their stimulant treatment with other medications. The study objective was to estimate the 1-year period prevalence of stimulant augmentation among adolescents with ADHD during 2009 and 2010 in a managed care population.

Methods

Patients aged 13-17 with ?1 ADHD diagnosis (ICD-9-CM: 314.00 or 314.01) during 2009 and 2010 were identified from a large US commercial claims database. Stimulant augmentation, defined as having at least 30 days of continuous medication supply overlap between the augmenting agent and a stimulant, was evaluated for 14 distinct psychotropic medication categories including 6 with an FDA-indication for ADHD (amphetamine [AMPH] short acting [SA], AMPH long acting [LA], methylphenidate [MPH] SA, MPH LA, atomoxetine, and guanfacine extended release [XR]) and 8 without an FDA-indication for ADHD (atypical antipsychotics [AAPs], typical antipsychotics [TAPs], guanfacine immediate release [IR], clonidine IR, tricyclic antidepressants [TCAs], SSRIs, serotonin-norepinephrine reuptake inhibitors [SNRIs], and bupropion). The 1-year period prevalence of stimulant augmentation (both overall and within each of the medication categories) was calculated separately for the periods of 1/1/2009 to 12/31/2009 and 1/1/2010 to 12/31/2010.Within these distinct periods, prevalence rates were further calculated and compared between patients with and without pre-defined psychiatric and neurologic comorbidities.

Results

The 1-year period prevalence of stimulant augmentation among all adolescents with ADHD during 2009 was 23.4%, with 6.7% augmenting with ?2 medication categories. In 2010, the rates of stimulant augmentation were 25.2% and 7.3%, respectively. Among the subgroup of adolescents with psychiatric or neurological comorbidities, the period prevalence was 41.7% in 2009 and 50.0% in 2010. Among adolescents without comorbidities, the period prevalence was 12.6% in 2009 and 13.8% in 2010. In the overall study population, the 3 most prevalent augmenting medication categories were SSRIs (11.4% in 2009 and 12.0% in 2010), AAPs (6.8% and 7.0%), and clonidine IR (2.9% and 3.1%). Similar augmentation trends were observed among adolescents without comorbidities. During both time periods, the 1-year period prevalence of stimulant augmentation was significantly higher ($p<0.05$) among comorbid compared with non-comorbid ADHD patients in most of the 14 medication categories.

Conclusions

In this US Managed Care population, stimulant augmentation among adolescents with ADHD was found to be common, regardless of the presence of psychiatric and neurologic comorbidities. These results are consistent with the hypothesis that stimulant monotherapy may sometimes be insufficient for the treatment of ADHD, and underscores the frequency of, and potential need for, adjunctive

NR8-52
A SWITCH TO ILOPERIDONE FROM CURRENT TREATMENT DUE TO WEIGHT GAIN IN PATIENTS WITH SCHIZOPHRENIA: ARE CLINICAL OUTCOMES/TOLERABILITY AFFECTED?

Lead Author: Richard Jackson, M.D.
Co-Author(s): Leslie Citrome, MD, MPH, New York Medical College, Valhalla, NY,
Peter J.Weiden, MD, Department of Psychiatry, University of Illinois at Chicago Medical Center, Chicago, IL
Farid Kianifard, PhD, Novartis Pharmaceuticals Corporation, East Hanover, NJ
Xiangyi Meng, PhD, Novartis Pharmaceuticals Corporation, East Hanover, NJ
Adam Winseck, PhD,Novartis Pharmaceuticals Corporation, East Hanover, NJ

SUMMARY:
Background: Patients with schizophrenia often change antipsychotics due to tolerability issues, with weight gain a common reason for switching. In the iloperidone Flexible-dose Study Assessing Efficacy and Safety and Tolerability of Two Switch Approaches in Schizophrenia Patients (i-FANS), adults with schizophrenia exhibiting suboptimal efficacy and/or safety/tolerability were switched either immediately or gradually from their current antipsychotic treatment of risperidone, olanzapine, or aripiprazole to iloperidone 12-24 mg/d. This report focuses on the subgroup of patients who switched to iloperidone primarily because of weight gain concerns.
Methods: Among inclusion criteria, subjects had to be prescribed risperidone, olanzapine, or aripiprazole as maintenance therapy and continue to have persistent symptoms or tolerability problems. Subjects in this 12-week open-label study were randomized to 1 of 2 switch strategies: gradual taper of their prior antipsychotic dose over a 2-week cross-taper period or immediate switch. Primary variable was the Integrated Clinical Global Impression of Change (I-CGI-C); primary analysis time point was at Week 12. The weight gain subgroup was assessed by I-CGI-C, Efficacy CGI of Severity (E-CGI-S), weight gain adverse events (AEs), and discontinuations due to weight gain.
Results: Of the 500 randomized subjects, 77 (15.4%) switched due to weight gain (gradual switch, 35; immediate switch, 42). Mean (SD) weight and body mass index at baseline were 101.3 (27.9) kg and 34.3 (7.7) kg/m2 for the gradual- and 101.8 (25.3) kg and 35.1 (10.8) kg/m2 for the immediate-switch group. Among these patients, least-squares mean (LSM) I-CGI-C score (1 [very much improved] to 7 [very much worse]) at Week 12 was 3.08 for the gradual- and 2.64 for the immediate-switch group. LSM change from baseline to Week 12 scores on the E-CGI-S (1 [not at all ill] to 7 [among the most extremely ill]) improved by -0.55 and -0.80 for the gradual- and immediate-switch groups, resp., (mean baseline scores: 3.7 and 3.6). The most commonly reported AEs were somnolence (6/35 patients) and insomnia and dry mouth (both 5/35) in the gradual-switch group and dizziness and insomnia (both 8/42) and nausea (7/42) in the immediate-switch group. Weight gain was reported as an AE by 2/77 patients (gradual-switch, n=1/35; immediate-switch, n=1/42) and no patients discontinued due to weight gain in this subgroup. Mean (SD) weight gain from baseline to Week 12 was 0.7 (2.9) kg and 0.4 (3.7) kg, resp., and 1/35 (2.9%) and 2/41 (4.8%) patients experienced weight gain ?7%.
Conclusion: In patients switching to iloperidone from prior treatment due to weight gain, although efficacy and safety/tolerability ratings did not differ between switch groups and showed improvements, patients' weight exhibited negligible change from baseline, with no discontinuations and 3/76 (3.9%) experiencing weight gain ?7% from baseline. Study funded by Novartis Pharmaceuticals Corp.

POSTER SESSION 9
ANXIETY AND DEPRESSIVE DISORDERS

NR9-01
A DULOXETINE-REFERENCED FIXED DOSE STUDY COMPARING EFFICACY AND SAFETY OF 2 VORTIOXETINE DOSES IN THE ACUTE TREATMENT OF ADULT PATIENTS WITH MDD

Lead Author: Atul Mahableshwarkar, M.D.
Co-Author(s): Paula L. Jacobsen, Michael Serenko, Yinzhong Chen, Madhukar Trivedi

SUMMARY:
Objective: Vortioxetine (LuAA21004) is an investigational antidepressant. Its mechanism of action is thought to be related to its multimodal activity, which combines two pharmacologi-

cal modes of action: direct modulation of receptor activity and inhibition of the serotonin transporter. This study investigated the use of vortioxetine 15mg and 20mg in major depressive disorder (MDD).
Methods: In this US 8-week, multicenter, randomized, double-blind, parallel-group, duloxetine-referenced trial, adults with MDD were randomized (1:1:1:1) to vortioxetine 15mg or 20mg, placebo or duloxetine 60mg daily. The primary efficacy endpoint, mean change from baseline in Montgomery-Åsberg Depression Rating Scale (MADRS) total score at week 8, was analyzed separately for each dose using mixed model for repeated measures (MMRM). To control for Type I errors, primary and key secondary outcomes were analyzed in a prespecified sequential order, all at week 8: MADRS response (?50% change from baseline in MADRS total score), last observation carried forward (LOCF); Clinical Global Impressions–Improvement score (MMRM); change from baseline in MADRS total score in subjects with baseline Hamilton Anxiety Rating Scale ?20 (MMRM); MADRS remission (MADRS total score ?10) (LOCF); and change from baseline in Sheehan Disability Scale total score (MMRM). When an endpoint was nonsignificant at .025, statistical testing stopped for remaining endpoints. Safety and tolerability assessments included adverse events (AEs), vital signs, weight, Columbia-Suicide Severity Rating Scale (C-SSRS), Arizona Sexual Experience scale (ASEX) and Discontinuation-Emergent Signs and Symptoms (DESS) checklist.
Results: 614 subjects were randomized to placebo (161), vortioxetine 15mg (147), vortioxetine 20mg (154) and duloxetine 60mg (152). Demographics and baseline clinical characteristics were balanced across groups. Least-squares mean declines from baseline in MADRS total score ±SE at week 8 were -12.83(±0.834), -14.30(±0.89), -15.57(±0.880), 16.90(±0.884), respectively for placebo, vortioxetine 15mg, vortioxetine 20mg (P=.023 vs placebo), duloxetine 60mg (P<.001 vs placebo, confirming assay sensitivity). No key secondary efficacy endpoint separated from placebo (P<.025), though vortioxetine 20mg showed numerical improvement vs placebo on most secondary endpoints. AEs reported in ?5% of the vortioxetine group were nausea, headache, dry mouth, dizziness, diarrhea, constipation, vomiting, insomnia, fatigue, nasopharyngitis, and respiratory tract infection.Vortioxetine groups and placebo did not differ in the change from baseline to week 8 of ASEX, C-SSRS or DESS scores. There were no clinically significant trends within or between groups regarding hematology, clinical chemistry, ECG or vital signs parameters.
Conclusions: In this US trial of adults with MDD , vortioxetine 20mg significantly reduced MADRS total score after 8 weeks' treatment. Both vortioxetine 15mg and 20mg were well-tolerated.

NR9-02
A RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED STUDY OF THE EFFICACY AND SAFETY OF 2 DOSES OF VORTIOXETINE IN ADULTS WITH MAJOR DEPRESSIVE DISORDER

Lead Author: Atul Mahableshwarkar, M.D.
Co-Author(s): Paula L. Jacobsen, Michael Serenko, Yinzhong Chen, Madhukar Trivedi

SUMMARY:
Objective: Vortioxetine (LuAA21004) is an investigational antidepressant. Its mechanism of action is thought to be related to its multimodal activity, which combines two pharmacological modes of action: direct modulation of receptor activity and inhibition of the serotonin transporter. This study investigated the efficacy and safety of vortioxetine 10mg and 15mg in the treatment of major depressive disorder (MDD).
Methods: For this US 8-week, multicenter, randomized, double-blind, parallel-group, placebo-controlled trial , central rating assessments were used to determine subject eligibility. Adults with MDD were randomized (1:1:1) to receive placebo, vortioxetine 10mg or vortioxetine 15mg daily. The primary efficacy endpoint, change from baseline in Montgomery-Åsberg Depression Rating Scale (MADRS) total score at week 8, was analyzed separately for each dose using mixed model for repeated measures (MMRM). To control for Type I errors, primary and key secondary outcomes were analyzed in a prespecified, sequential order at week 8: change from baseline in MADRS total score; MADRS response rate (?50% change from baseline in MADRS total score) (LOCF); mean Clinical Global Impressions–Improvement score (MMRM); change from baseline in MADRS total score in subjects with baseline Hamilton Anxiety Scale ?20 (MMRM); MADRS remission rate (MADRS total score ?10) (LOCF); and change from baseline in Sheehan Disability Scale total score (MMRM). When an endpoint was nonsignificant at .025, statistical testing procedures were stopped. Adverse events (AEs) were recorded during the study, suicidality was assessed using the Columbia-Suicide Severity Rating Scale (C-SSRS) and sexual dysfunction was assessed using the Arizona Sexual Experiences (ASEX) scale.
Results: 469 subjects were randomized: placebo 160; vortioxetine 10mg, 157; vortioxetine 15mg, 152. Least-squares mean declines from baseline in MADRS total score ±SE at week 8 were -12.87(±1.043), -13.66(±1.064), -13.36(±1.087), respectively, for placebo, vortioxetine 10mg and vortioxetine 15mg (P=NS for both comparisons vs placebo). For all key secondary efficacy endpoints, results were similar between both vortioxetine groups and differences from placebo did not reach statistical significance. AEs reported by ?5% in either vortioxetine group were: nausea, headache, dry mouth, vomiting, constipation, diarrhea, dizziness and flatulence. Discontinuation due to AEs occurred in 7 (4.4%) patients in the placebo, 8 (5.2%) in the vortioxetine 10mg and 12 (7.9%) in the vortioxetine 15mg groups. ASEX total scores were similar across groups. There were no clinically significant trends within or between treatment groups on the C-SSRS, laboratory values, ECG or vital signs parameters.
Conclusions: In this US study of adults with MDD, vortioxetine 10mg and 15mg did not differ significantly from placebo on MADRS total score. Safety and tolerability results suggest a favorable safety profile of vortioxetine.

NR9-03
A POPULATION PHARMACOKINETIC (PK)-PHARMACODYNAMIC (PD) META-ANALYSIS OF

VORTIOXETINE (LU AA21004) IN PATIENTS WITH MAJOR DEPRESSIVE DISORDER (MDD)

Lead Author: Himanshu Naik
Co-Author(s): Chan, S.1;Vakilynejad, M.1;Chen, G.1;Loft, H.2; Mahableshwarkar, A.R.1 Areberg, J.2
1Takeda Global Research and Development Center, Deerfield, IL, USA
2H. Lundbeck A/S, Denmark

SUMMARY:
Objective: Develop a population PK and PK-PD model for vortioxetine (multimodel antidepressant) in patients with MDD and assess the impact of selected covariates on PK and PD parameters of vortioxetine.
Methods: Plasma concentration-time data from Phase 2/3 studies in patients with MDD (10 studies) and generalized anxiety disorder (GAD; 2 studies) were included in the population PK analysis. Montgomery-Asberg Depression Rating Scale [MADRS] total score data from 7 short-term MDD studies were used for the PK-PD analysis. Data collected from 3184 (MDD and GAD) and 2548 (MDD only) patients following administration of 1 to 20 mg QD doses of vortioxetine were used for PK and PK-PD analysis, respectively. One- and two-compartment PK models were evaluated as base structural PK models and the impact of selected covariates (BMI, age, region) was assessed using stepwise forward selection (a = 0.01) and backward elimination (a = 0.005) procedures. The relationship between the average vortioxetine plasma concentration at steady-state (Cav) and change in MADRS total score from baseline (?MADRS) was investigated through nonlinear (Emax) and linear models. The impact of the selected covariates (gender, etc) on the PD parameters of vortioxetine was assessed. The relationship between Cav or dose and the risk of nausea was investigated through logistic regression analysis.
Results: A 2-compartment model with first-order absorption and linear elimination best characterized vortioxetine concentration over time. The population mean estimate for the oral clearance (CL/F) and volume of distribution for central compartment (V2/F) were 40 L/hr and 3400 L, respectively. Creatinine clearance (CRCL), height, and region (EU, US or RoW) had statistically significant effects on CL/F of vortioxetine, however, none of these identified covariates were considered clinically relevant, based upon their effect on exposure (AUC and Cmax) of vortioxetine (?±26%). An Emax model with an additive baseline MADRS total score effect on EC50 best described the relationship between the ?MADRS score and Cav for vortioxetine. The estimates of EC50 and Emax were 22.7 ng/mL and -6.7, respectively. The model predicted ?MADRS score increased with increase in Cav of vortioxetine. Age, region, BMI and weight had statistically significant effects on Emax and/or EC50 of vortioxetine. ?MADRS decreased with increases in age, weight and BMI, and was lower for studies conducted in US compared with non-US studies. Both Cav and dose had a statistically significant impact on the risk of nausea.
Conclusions: The developed PK-PD model well characterizes the dose-response relationship for vortioxetine in MDD patients.

Funding: The studies used in this analysis were sponsored and funded by the Takeda Pharmaceutical Company and H. Lundbeck A/S.

NR9-04
A QUALITATIVE METHOD TO IDENTIFY PHENOTYPES THAT RESPOND AND DO NOT RESPOND TO ANTIDEPRESSANT MONOTHERAPY AGOMELATINE

Lead Author: Luis Caballero, M.D.
Co-Author(s): Amelia Cordero, Inés García del Castillo, Jorge López, Ana Montes, Enriqueta Ochoa, Clara Peláez, Belén Sanz

SUMMARY:
Introduction. The symptomatic efficacy profile of many psychiatric drugs is only partially set in the pivotal studies. Observational studies and user experience are usually required to shaping the differential use of psychoactive drugs in clinical practice.
Hypothesis. Agomelatine is an antidepressant with a new pharmacodynamic profile (melatonergic, 5HT2C and 5HT2B antagonist) and a wide range of antidepressant action in several controlled studies (De Bodinat et al., 2010). We present a qualitative method to systematically present and discuss clinical experience with Agomelatine
Methods. Each 8 clinicians selected from their clinical practice with Agomelatine the 2 cases with MD who had the best response observed in a period of 6 months (at least improvement > 50% on the scales), and the 2 cases with the worst response (no more than 25% of improvement on the scales). Each participant presented their data to the group in a systematic medical record format and the HAM-D, MADRS and ICG scales at weeks 0, 2, 4 and 8 of treatment.
The qualitative procedure included: 1) the systematic presentation of clinical cases for each participant in group, 2) group discussion of cases and recording of it, 3) written transcript of the discussion, 4) selection of the relevant information in the discussion (log), 5) report the results to the participants, 6) suggestions and contributions to the outcome for participants, 7) overall qualitative analysis, 8) final report and conclusions.
Results. 3 group meetings were conducted where participants presented 32 patients with MD (single episode or recurrent) treated with agomelatine alone. 16 of them had good response, and 16 had poor response.The 16 cases with good response have a broad symptom and clinical profile including asthenia,apathy, anergy, anhedonia, phobic anxiety and previous intolerance to SSRIs (for sexual dysfunction, weight gain and other side effects); and more than half of the cases with good response had no circadian variation of symptoms. The 16 cases with poor response had no profile defined but personality disorders, dysthymia and previous cases resistant were frequent in this group. There were no other symptomatic or clinical regularities in the cases with poor response.
Discussion. Information from various professional and clinical settings systematically collected and discussed, may represent a valuable knowledge to define the best clinical use of psychotropic drugs. In this study, the participants presented 16 cases of Agomelatine having a broad phenotypic profile of

favorable response. On the other hand, they could not define a specific adverse phenotypic profile in the 16 cases that did not respond. An increase in the number of cases with this methodology could allow "saturate" some of the agreement views and meet other clinical symptom patterns or favorable or unfavorable to the use of agomelatine.
References. DeBodinat C et al. Nature Reviews 2010; 9:628-42

NR9-05
A POOLED ANALYSIS OF THE EFFICACY OF DESVENLAFAXINE FOR THE TREATMENT OF MAJOR DEPRESSIVE DISORDER IN PERIMENOPAUSAL AND POSTMENOPAUSAL WOMEN

Lead Author: Susan Kornstein, M.D.
Co-Author(s): Anita Clayton, MD, University of Virginia, Charlottesville, VA
Weihang Bao, PhD, Pfizer Inc, Collegeville, PA
Christine Guico-Pabia, MD, MBA, MPH, Formerly of Pfizer Inc.

SUMMARY:
Objective: To assess the efficacy of desvenlafaxine (administered as desvenlafaxine succinate) in perimenopausal and postmenopausal women with major depressive disorder (MDD) enrolled in 2 phase 3b, double-blind, placebo-controlled trials.
Methods: This pooled analysis examined data from 2 clinical trials in which perimenopausal and postmenopausal women (40-70 years) diagnosed with MDD were randomly assigned to receive 8 weeks of treatment with desvenlafaxine 100 to 200 mg/d, or placebo, or 10 weeks of treatment with desvenlafaxine 50 mg/d or placebo. The primary efficacy end point for both trials was change from baseline (BL) in Hamilton Rating Scale for Depression (HAM-D17) total score at week 8. Secondary end points included HAM-D17 and Montgomery-Åsberg Depression Rating Scale (MADRS) response (?50% reduction from BL) and remission (HAM-D17 ?7; MADRS?10) rates, Clinical Global Impressions–Improvement (CGI-I) response (score of 1 or 2), and change from BL in MADRS, Sheehan Disability Scale (SDS), Menopause Rating Scale (MRS), and MRS Hot Flush (MRS/HF) scores. Changes from BL in primary and secondary efficacy variables at week 8 were analyzed using analysis of covariance with treatment, region, and BL in the model. Week 8 response and remission rates were assessed using logistic regression with treatment, region, and BL in the model. All analyses were carried out separately in perimenopausal or postmenopausal women, and in the pooled population, adjusting for menopausal status and difference between studies. Treatment by menopausal status or by study interaction was examined, including the interaction term in the model.
Results: A total of 798 patients were included in the full analysis set (perimenopausal women, n=252; postmenopausal women, n=546). Demographic and clinical characteristics were similar in the 2 groups. Significant reductions from BL in HAM-D17 total scores for desvenlafaxine vs placebo were observed at week 8 in both perimenopausal (-10.3 vs -6.5; P<0.001) and postmenopausal women (-10.1 vs -7.6; P<0.001). For the primary efficacy end point, statistical separation from placebo was observed as early as week 2 in both groups. Significant improvements in MADRS and SDS total scores were also observed for desvenlafaxine vs placebo (P?0.009). Rates of HAM-D17 and MADRS response and remission were significantly higher for desvenlafaxine vs placebo in perimenopausal and postmenopausal women (P?0.02), as were rates of CGI-I response (P<0.0001). Desvenlafaxine treatment resulted in significant improvements in MRS total scores vs placebo in perimenopausal (-8.0 vs -6.0; P=0.02) and postmenopausal women (-7.5 vs -5.4; P<0.001). No significant treatment effect was observed for MRS/HF scores in either group.
Conclusions: In this pooled analysis, desvenlafaxine demonstrated antidepressant efficacy in both perimenopausal and postmenopausal women with MDD.
Sponsored by Pfizer.

NR9-06
A RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED STUDY OF THE EFFICACY AND SAFETY OF VORTIOXETINE 10MG AND 20MG IN ADULTS WITH MAJOR DEPRESSIVE DISORDER

Lead Author: Paula Jacobsen, M.S.
Co-Author(s): Atul R. Mahableshwarkar, Michael Serenko, Serena Chan, Madhukar Trivedi

SUMMARY:
Objective: Vortioxetine (LuAA21004) is an investigational antidepressant. The mechanism of action of vortioxetine is thought to be related to its multimodal activity, which is a combination of two pharmacological modes of action: direct modulation of receptor activity and inhibition of the serotonin transporter. This placebo-controlled study investigated the efficacy of vortioxetine 10mg and 20mg in the treatment of major depressive disorder (MDD).

Methods: In this 8-week, multicenter, randomized, double-blind, parallel-group, placebo-controlled trial in the US, adults with MDD were randomized (1:1:1) to placebo, vortioxetine 10mg, or vortioxetine 20mg daily. The primary efficacy endpoint, mean change from baseline in Montgomery-Åsberg Depression Rating Scale (MADRS) total score at week 8, was analyzed separately for each dose using mixed model for repeated measures (MMRM). Primary and key secondary outcomes were analyzed in the following prespecified sequential order: MADRS response (?50% decrease from baseline in total MADRS score at week 8), last observation carried forward (LOCF); Clinical Global Impressions–Improvement (CGI-I) score at week 8 (MMRM); change from baseline in MADRS total score at week 8 in subjects with baseline Hamilton Anxiety Rating Scale (HAM-A) ?20 (MMRM); MADRS remission (MADRS total score ?10 at week 8), LOCF; and change from baseline in Sheehan Disability Scale (SDS) total score at week 8 (MMRM). Safety assessments included adverse events (AEs), vital signs, weight, Columbia-Suicide Severity Rating Scale (C-SSRS), Arizona Sexual Experience (ASEX) scale, and the Discontinuation-Emergent Signs and Symptoms (DESS) checklist.

Results: 462 patients were randomized to placebo (157), vortioxetine 10mg (155), and vortioxetine 20mg (150). The least-squares mean declines from baseline in MADRS total score at week 8 were -10.77 (± 0.807), -12.96 (±0.832), and -14.41 (±0.845), respectively, for the placebo, vortioxetine 10mg, and vortioxetine 20mg groups (P=0.002 for vortioxetine 20mg vs placebo; P=0.058 for 10mg vs placebo). MADRS response at 8 weeks was achieved in 28.4%, 33.8%, and 39.2%, of patients, respectively, in the 3 groups. Vortioxetine 20mg was also significantly improved in HAM-A, CGI-I, and SDS scores at week 8 vs placebo (nominal P<0.05). Treatment was well tolerated; the most frequently reported AEs (?5%) were nausea, headache, diarrhea, dizziness, constipation, vomiting, viral upper respiratory infection, and fatigue. Incidences of treatment-emergent AEs were 62.4%, 73.5%, and 68.7%, respectively, in the placebo, vortioxetine 10mg, and 20mg dose groups. There were no differences between the vortioxetine groups and placebo in the change from baseline of ASEX total score at week 8, or C-SSRS or DESS scores.

Conclusions: In this study of adults with MDD in the US, vortioxetine 20mg significantly reduced MADRS total score at 8 weeks and improved symptoms of MDD. Overall vortioxetine was well tolerated.

NR9-07
ACUTE ANTIDEPRESSIVE EFFICACY OF LITHIUM MONOTHERAPY, NOT CITALOPRAM, DEPENDS ON RECURRENT COURSE OF DEPRESSION

Lead Author: Tom Bschor, M.D.
Co-Author(s): Manfred Uhr
Christopher Baethge
Marcus Ising
Sebastian Erbe
Patricia Winkelmann
Dirk Ritter
Ute Lewitzka

SUMMARY:

Studies of the 1970s and 1980s showed lithium-monotherapy to be an effective treatment of acute unipolar major depressive disorder (MDD) and hence as a potential alternative to monoaminergic antidepressants.
The objective was to conduct the first systematic comparison of a lithium-monotherapy with a modern antidepressant in the acute treatment of MDD. Results were compared to citalopram's efficacy as shown in a different, but methodologically identical study (including same researchers, same time and place).
Thirty patients with an acute MDD (SCID I) were treated with lithium-monotherapy (study 1) or with citalopram-monotherapy (study 2, N=32) for four weeks.
Response rates (decrease in HDRS > 50%) were 50% for lithium and 72% and citalopram (p=0.12). Citalopram-treated subjects showed a greater decrease in HDRS scores (significant at two weeks). In the lithium study only patients with a recurrent episode (DSM-IV: 296.3) responded (15 out of 22), as opposed to none out of eight with a first/single episode (DSM-IV: 296.2) (p=0.002). Patients with a single episode responded significantly more often to citalopram than to lithium (p=0.007). Both drugs were well tolerated. Only one patient (citalopram) terminated the study prematurely due to side effects.
Our results do not support the use of lithium as an alternative to SSRI in the treatment of acute MDD. The finding of a better response to lithium in patients with a recurrent depression has not been reported before and warrants replication.

NR9-08
AN OPEN-LABEL PHASE II PILOT STUDY OF THE SAFETY AND EFFICACY OF SELEGILINE TRANSDERMAL SYSTEM (STS) FOR PATIENTS WITH SOCIAL PHOBIA

Lead Author: Kimberly Blanchard Portland, Ph.D.
Co-Author(s): Kimberly Blanchard Portland, PhD
Rob Mariani
Terry Painter
Dorothea Sanchez, PhD

SUMMARY:

Introduction
Controlled clinical trials examining the use of monoamine oxidase inhibitors (MAOIs) for social phobia have shown that MAOIs may be more effective than CBT, placebo, and benzodiazepines in treating symptoms of social phobia. To date, no study has examined the efficacy and safety of selegiline transdermal system (STS) a transdermal MAOI in patients with social phobia. STS has been shown to be an effective and well-tolerated acute and maintenance treatment for major depressive disorder. STS delivers sustained blood levels of monoamine oxidase inhibitor (MAOI) directly into systemic circulation, bypassing first pass metabolism. Dopaminergic effects of STS are of interest with recent evidence that dopamine systems play a role in social phobia.

Methods
The objective of this open-label, Phase II, pilot study was to assess the safety and efficacy of selegiline transdermal system (STS) 6 mg/24 hrs in adult patients with clinically defined social phobia. Twenty-one patients were screened, 20 were enrolled and 10 completed this 12 week study. Efficacy was evaluated using the Liebowitz Social Anxiety Scale (LSAS), the Sheehan Disability Scale (SDS), the Clinical Global Impression Severity of Illness Scale (CGI-S) and the Clinical Global Impression Change Scale (CGI-C) for 12 weeks. Safety was evaluated by incidence of adverse events, vital signs and physical examination, clinical laboratory results, and ECG results.

Results
Twenty patients were enrolled into open-label treatment with STS 6 mg/24 hrs for 12 weeks. Patient demographics were as follows: mean age of patients was 35 years; 75% were male; and 55% were Hispanic, 40% were Caucasian, and 5% were Black. The results of the primary endpoint analysis showed a statistically significant difference between baseline and end of study in the avoidance component of the LSAS for the ITT population with LOCF (p=0.036) and a trend for

the anxiety component of the LSAS (p=0.053). A statistically significant improvement was also shown from baseline to end of study in symptom severity of illness (CGI-S; p=0.023) and change in severity of illness (CGI-C; p=0.017). Overall, 75% (n=15) of patients reported at least one AE during this study. Three patients (15%) discontinued treatment due to AEs. The most frequently reported AEs by COSTART term were headache (25%) and application site reaction (20%). All reported AEs were considered either mild or moderate and none were severe. No SAEs were reported during this study.

Conclusions
Treatment with STS 6 mg/24 hrs was well-tolerated by patients with social phobia. Patients treated with STS showed improvement compared with baseline scores in multiple efficacy measures. Future double blind trials in larger populations and utilizing a flexible dosing structure appear to be warranted.

NR9-09
ANALYSIS OF RELAPSE PREVENTION AND PREDICTORS OF RELAPSE IN TWO RANDOMIZED, PLACEBO-CONTROLLED TRIALS OF DESVENLAFAXINE FOR MAJOR DEPRESSIVE DISORDER

Lead Author: Roger S. McIntyre, M.D.
Co-Author(s): Rana Fayyad, PhD, Pfizer Inc, New York, NY
Christine J. Guico-Pabia, MD, MBA, MPH, Formerly of Pfizer Inc, Collegeville, PA
Matthieu Boucher, PhD, Pfizer Canada Inc, Kirkland, Canada

SUMMARY:
Objective: To evaluate relapse rates and predictors of relapse in 2 randomized, placebo (PBO)-controlled trials of desvenlafaxine (administered as desvenlafaxine succinate) for the treatment of major depressive disorder (MDD).
Methods: In study 1, patients completed 8 weeks of open label (OL) treatment with desvenlafaxine 50 mg/d; responders at week 8 (Hamilton Rating Scale for Depression [HAM-D17] score ?11 and Clinical Global Impressions–Improvement [CGI-I] score ?2) entered a 12-week OL stability phase. Responders with a continuing, stable response at week 20 were randomly assigned to 6 months of double-blind (DB) treatment with desvenlafaxine 50 mg/d or PBO. In study 2, patients completed 12-weeks of OL treatment with desvenlafaxine 200 or 400 mg/d; responders at week 12 (HAM-D17 ?11) were randomly assigned to 6 months of DB treatment with desvenlafaxine 200 mg/d, 400 mg/d, or PBO. Because of the different study designs and desvenlafaxine doses, relapse was assessed separately using log-rank test and the following definitions of relapse: (1) study 1 protocol (HAM-D17 ?16 at any time during DB phase, study discontinuation due to unsatisfactory response, hospitalization for depression, suicide, or suicide attempt); (2) study 2 protocol (HAM-D17 ?16 at any visit, CGI-I ?6 vs DB baseline [BL] [day 84] and study discontinuation due to unsatisfactory response); or (3) HAM-D17 ?16 at any time during the DB phase. Kaplan-Meier estimates evaluated time to relapse, censoring data at months 1, 2, 3, and overall (6 months). Hazard ratios compared treatments and definition of relapse at months 1, 2, 3, and overall. Cox proportional hazards models assessed relapse predictors.
Results: In study 1, using the protocol definition, relapse rates were significantly lower for desvenlafaxine vs PBO overall (14% vs 28%, P<0.0001), at month 2 (P=0.016), and month 3 (P=0.007), but not month 1 (P=0.088). Using HAM-D17 criteria, relapse rates were significantly lower for desvenlafaxine vs PBO overall (13% vs 22%, P=0.002), but not at months 1, 2, or 3. In study 2, relapse rates were significantly lower for desvenlafaxine vs PBO overall, and at months 1, 2, 3, applying protocol and HAM-D17 definitions (P<0.0001–0.002). Overall relapse rates for desvenlafaxine vs PBO were 24% vs 42% using the protocol definition (P<0.0001), and 20% vs 38% using the HAM-D17 definition (P<0.0001). Hazard ratios were similar at months 1, 2, 3, and overall for both studies (0.382–0.639). BL predictors of relapse for 1 or both studies included treatment, duration of current MDD episode, number of prior MDD episodes, BMI, number of previous medications, and BL HAM-D17 total score.
Conclusions: Desvenlafaxine 50–400 mg/d effectively prevented relapse at 6 months. Desvenlafaxine significantly prevented relapse early (month 1) vs PBO only in study 2.These results could be explained in part by different study designs, including differences in duration of OL stabilization.
Sponsored by Pfizer.

NR9-10
EFFECT OF BODY MASS INDEX ON EFFICACY IN DEPRESSED PATIENTS TREATED WITH DESVENLAFAXINE 50 AND 100 MG/D

Lead Author: Roger S. McIntyre, M.D.
Co-Author(s): Rana S. Fayyad, PhD, Pfizer Inc, New York, NY
Christine J. Guico-Pabia, MD, MBA, MPH, formerly Pfizer Inc, Collegeville, PA
Matthieu Boucher, PhD, Pfizer Canada, Inc, Kirkland, QC

SUMMARY:
Introduction: The objective of this pooled, post hoc analysis was to assess the effect of baseline body mass index (BMI) on efficacy outcomes in adults with major depressive disorder (MDD) treated with desvenlafaxine or placebo.
Methods: Adults with MDD were randomly assigned to receive fixed doses of desvenlafaxine, duloxetine (one study), or placebo in 8 short-term, double-blind (DB) studies. Data from the desvenlafaxine 50- and 100-mg/d and placebo arms were pooled for analysis. The primary efficacy outcome in each study was change from baseline in 17-item Hamilton Rating Scale for Depression (HAM-D17) total score at week 8 (last observation carried forward [LOCF]). Secondary outcomes included change from baseline in Sheehan Disability Scale (SDS) total score, and rates of HAM-D17 response (?50% reduction from baseline in HAM-D17 total score) and remission (HAM-D17 total score ?7) at week 8 (LOCF). Treatment

effects on continuous efficacy outcomes were analyzed in 3 baseline BMI subgroups-normal (BMI ?25 kg/m2), overweight (25 kg/m2 < BMI ? 30 kg/m2), obese (BMI >30 kg/m2)-using analysis of covariance with treatment, study, and baseline in the model. Categorical outcomes were analyzed in the 3 subgroups using logistic regression with study in the model.
Results: The pooled analysis included 3384 patients (normal BMI, n=1122; overweight, n=960; obese, n=1302). In all BMI subgroups, HAM-D17 total scores improved significantly from baseline to week 8 (LOCF) with desvenlafaxine 50 or 100 mg/d compared with placebo (all P?0.0027), and HAM-D17 response rates at week 8 (LOCF) were significantly greater for desvenlafaxine (47%–57%) compared with placebo (37%–40%; all P?0.025). Remission rates at week 8 (LOCF) were significantly higher for desvenlafaxine than placebo in normal (desvenlafaxine 50 mg/d, 28%; desvenlafaxine 100 mg/d, 38%; placebo, 19%; both P?0.009) and obese patients (desvenlafaxine 50 mg/d, 28%; desvenlafaxine 100 mg/d, 29%; placebo, 19%; both P?0.039) but not in overweight patients for either desvenlafaxine dose (desvenlafaxine 50 mg/d, 29%; desvenlafaxine 100 mg/d, 32%; placebo, 24%). Desvenlafaxine-treated patients in the normal and obese BMI subgroups showed significantly greater functional improvement from baseline at week 8 (LOCF), based on SDS total score, compared with placebo-treated patients (all P?0.0018). For overweight patients, desvenlafaxine 50 mg/d (P=0.0042), but not 100 mg/d, improved function at week 8 (LOCF) compared with placebo.
Conclusions: Desvenlafaxine significantly improved symptoms of depression compared with placebo regardless of BMI at baseline. Desvenlafaxine 50 mg/d improved function in MDD patients in all BMI groups.
Supported by Pfizer.

NR9-11
AUGMENTATION OF CITALOPRAM WITH LOW DOSE PIPAMPERONE TO RESULT IN MORE RAPID AND SUSTAINED ANTIDEPRESSANT RESPONSE: CONFIRMATORY PHASE III STUDY DATA

Lead Author: Erik Buntinx, M.D.
Co-Author(s): Charles Nemeroff, MD, PhD
Alan Schatzberg, MD
Ludo Haazen, MD
Michael Thase, MD

SUMMARY:

In this pivotal, double blind, active controlled, randomized phase III study in 555 patients with moderate to severe major depressive disorder (MDD), citalopram 40 mg/d is augmented with low dose pipamperone 15 mg/d (PNB01) - a highly selective 5HT-2A / D4 antagonist - to obtain a rapid and sustained response in the treatment of major depression. Patients were randomized to PNB01_40/15, citalopram 40 or pipamperone 15 for 10 weeks treatment.
Patient-reported scores of depressive symptoms were analysed with the new endpoint ESR (Early and Sustained Response), as agreed with FDA. ESR has been defined as a MADRS total score reduction from baseline of 50% or more and MADRS total score ?16 at Week 2, Week 3, Week 4, and Week 6.
Results are expected to provide evidence of a clinical relevant superior benifit / risk balance of PNB01 over citalopram based on a significant higher amount of patients experiencing an early and sustained respons without affecting the overall safety profile of treatment with citalopram.
The clinical relevance of the PNB01 combination was suggested in a Phase II, double blind, active controlled, randomized Proof of Concept study in 165 patients with moderate to severe major depression disorder (MDD).
A significant superior rate of patients with ESR treated with PNB01 compared with CIT (21% vs. 9%, p<0.046) was demonstrated without affecting the safety burden (Wade et al, 2011).

NR9-12
CARDIOVASCULAR SAFETY PROFILE OF LEVOMILNACIPRAN SR IN THE TREATMENT OF MAJOR DEPRESSIVE DISORDER

Lead Author: Robert Palmer, M.D.
Co-Author(s): Pomy Shrestha
William M. Greenberg
Amy O'Dowd
David Bharucha
Carl Gommoll
Changzheng Chen

SUMMARY:

Objective: Levomilnacipran (1S, 2R-milnacipran), a potent and selective serotonin and norepinephrine reuptake inhibitor (SNRI), has approximately 2-fold greater potency for reuptake inhibition of norepinephrine than serotonin. A levomilnacipran sustained release (SR) formulation was developed for once daily dosing. Treatment with SNRIs has been associated with increases in blood pressure (BP) and heart rate (HR). This analysis evaluated the cardiovascular (CV) safety profile of levomilnacipran SR in patients with major depressive disorder.

Method: Analyses were based on data from 5 randomized, double-blind, placebo-controlled trials of 8-10 weeks' duration with levomilnacipran SR 40-120 mg/d and a 48-week open-label extension study with levomilnacipran SR 40-120 mg/d. CV-related safety and tolerability evaluations included supine systolic and diastolic blood pressure (SBP and DBP), HR, ECGs, CV-related treatment-emergent and serious adverse events (TEAEs and SAEs), major adverse cardiovascular events (MACEs), and CV-standardized MedDRA Queries (SMQs).

Results: Overall, 75% of 1583 levomilnacipran SR and 80% of 1040 placebo patients completed the short-term studies; 47% of 779 patients completed the extension study. In short-term studies, levomilnacipran SR was associated with mean increases from baseline in SBP and DBP of 3.0 and 3.2 mmHg, respectively, compared to a mean decrease of 0.4 mmHg in SBP and no change in DBP for placebo. Of patients

with normal BP (SPB <120 mmHg and DBP <80 mmHg) or prehypertension (SBP ?120-?139 mmHg or DBP ?80-?89 mmHg) at baseline, 90% (1334/1489) of levomilnacipran SR patients remained nonhypertensive at endpoint compared with 93% (903/972) of placebo patients. Levomilnacipran SR was associated with a mean change of +7.4 bpm in HR vs -0.3 bpm for placebo. Potentially clinically significant BP or HR changes were low (<2%) and similar in both groups. The most common (?3%) CV-related AEs for levomilnacipran SR were heart rate increased, tachycardia, and palpitations. Hypertension was the only CV SMQ with higher incidence for levomilnacipran SR than for placebo. Only 1 MACE was reported (nonfatal stroke in the levomilnacipran SR group). Discontinuations due to CV-related AEs were low (<2%) and similar between groups; there were no deaths. Increases in BP and HR in the extension study were small with increases <1 mmHg in SBP, <2 bpm in HR and no increase in DBP relative to the short-term studies. Changes in cardiac parameters did not appear to be dose related.

Conclusions: Increases in SBP, DBP, and HR were observed during double-blind, placebo-controlled treatment with levomilnacipran SR consistent with known SNRI pharmacology. Incidence of PCS changes, CV TEAEs, MACE, and CV SMQs were low and similar between active-drug and placebo arms in controlled trials. No additional increase was noted with long-term exposure. This analysis was funded by Forest Laboratories, Inc.

NR9-13
CHRONOBIOLOGICAL THYROID AXIS ACTIVITY COULD PREDICT ANTIDEPRESSANT RESPONSE IN MAJOR DEPRESSION

Lead Author: Fabrice Duval, M.D.
Co-Author(s): Marie-Claude Mokrani, Felix Gonzalez Lopera, Alexis Erb, Hassen Rabia, Xenia Proudnikova, Claudia Alexa

SUMMARY:

Background: We previously demonstrated that the difference between 11 PM and 8 AM TSH response to TRH tests on the same day (??TSH test) is reduced in about 75% of drug-free depressed inpatients. This study sought to determine whether this chronobiological index, at baseline and after 2 weeks of treatment, could predict antidepressant response.
Methods: The ??TSH test was performed in 50 drug-free DSM-IV euthyroid major depressed inpatients and 50 hospitalized controls. After 2 weeks of antidepressant treatment the ??TSH test was repeated in all inpatients. Antidepressant response was evaluated after 6 weeks of treatment.
Results: At baseline, ??TSH values were significantly lower in patients compared to controls ($p<0.000001$): 38 patients (76%) showed reduced values (i.e. ??TSH ? 2.5 mIU/L). After two weeks of treatment, 20 patients showed ??TSH normalization (among them 18 were subsequent remitters), while 18 patients did not normalize their ??TSH (among them 15 were non remitters) ($p < 0.00001$). Among the 12 patients who had normal ??TSH values at baseline, 8 out 9 who had still normal values after 2 weeks of treatment were remitters, while the 3 with worsening thyroid axis function (i.e. reduced ??TSH value after 2 weeks of treatment) were non-remitters ($p<0.02$).
Conclusion: Our results suggest that after 2 weeks of antidepressant treatment: 1) an abnormal ??TSH test could predict non-remission, and 2) ??TSH normalization is associated with subsequent remission. Thus, chronobiological restoration of the thyroid axis activity precedes clinical improvement and may predict the therapeutic outcome in major depression.

NR9-14
CLINICAL CHARACTERISTICS OF TREATMENT RESISTANCE IN DEPRESSION

Lead Author: Craig Nelson, M.D.
Co-Author(s): Justin Doan, MPH - Bristol-Myers Squibb, Wallingford, CT, USA
Surrey Walton, PhD - University of Illinois at Chicago, Chicago, IL, USA
Hugh Kawabata, PhD - Bristol-Myers Squibb, Wallingford, CT, USA

SUMMARY:

Introduction: Major depressive disorder (MDD) occurs in 6–7% of the population annually, with approximately 60% of patients failing to remit with existing antidepressant therapy. This study compares the clinical and demographic characteristics and healthcare utilization trends of MDD patients with resistance to treatment (TRD-likely) with those in a control subset of MDD patients without treatment resistance matched for age, gender, index year, and number of hospitalizations (MDD control).

Methods: Individuals (18–64 years) with ?1 inpatient or ?2 outpatient/other visits with diagnoses of MDD (ICD-9-CM codes 296.2x, 296.3x; excluding those with psychosis, schizophrenia, bipolar disorder, and dementia) were identified from a MarketScan® dataset between January 2006 and September 2011. The index date was defined as the date of first diagnosis of MDD. All individuals had continuous eligibility at baseline (6 months prior to index) and 24 months following index. The TRD-likely group was identified, with resistance to treatment defined as either receipt of a third antidepressant following two adequate previous treatments, or as outlined by Corey-Lisle PK, et al (J Clin Psychiatry 2002;63:717–26). The 1:1 matched control group was identified from the patients without treatment resistance (non-TRD). Demographic, diagnosis, duration, comorbidity, and antidepressant treatment data were examined.

Results: A total of 139,434 patients were eligible for inclusion (TRD-likely, n= 18,323; non-TRD, n=121,111). Demographic and clinical characteristics were similar between the non-TRD patients and those selected as MDD controls. Compared with MDD control patients, mean Charlson Comorbidity Index scores were significantly higher for TRD-likely patients (0.29 vs 0.23; $p<0.0001$). Chronic pain, migraine, fibromyalgia, osteoarthritis, and insomnia were more prevalent by rank order in TRD-likely patients compared with MDD controls ($p<0.0001$). Rates of anxiety disorders (19.4 vs 15.2%) and non-MDD depression (23.8 vs 18.6%), which included

dysthymic disorder, also differed significantly between the two cohorts (p<0.0001). A higher proportion of TRD-likely patients received other non-antidepressant medicines compared to MDD controls (p<0.0001). TRD-likely patients also were more likely to have required inpatient stays (11.9%; p<0.0001) and to have sought mental health specialist provider care (35.5%; p<0.0001) compared with MDD controls (8.6 and 28.0%, respectively).

Conclusion: MDD patients with comorbid pain, dysthymia, or anxiety disorders were more likely to have resistance to treatment and require a higher level of care, including inpatient admission and specialty care. The higher utilizations among TRD-likely patients remain despite the new drugs available since the Corey-Lisle study.

Supported by Bristol-Myers Squibb

NR9-15
DEPRESSION, SUBTHRESHOLD DEPRESSION AND COMORBID ANXIETY SYMPTOMS IN OLDER EUROPEANS: RESULTS FROM THE EURODEP CONCERTED ACTION

Lead Author: Arjan W. Braam, M.D.
Co-Author(s): John R.M. Copeland, M.D.
Philippe Deselpaul, Ph.D.
Michael Dewey, Ph.D.
Ingmar Skoog, M.D.

SUMMARY:
In the epidemiology of late life depression, few insights are available on the co-occurrence of subthreshold depression and comorbid symptoms of anxiety. Aim of the present study is to describe the prevalence and severity of late life depression with and without comorbid anxiety symptoms.
Participants were community dwelling older adults (age 65-104) from seven western European countries (N = 14,200). Depression and anxiety symptoms (three or more) were diagnosed using the Geriatric Mental State examination and EURO-D scale.
The prevalence of anxiety symptoms amounts to 32% for those without depression, 67% for subthreshold depression, and 87% for depression at case-level. Severity of depression is similar for subthreshold level with anxiety to case-level without anxiety. In turn, comorbid anxiety at depression case level had the highest severity scores.
Anxiety symptoms in late life depression are highly prevalent, and are likely to contribute to the severity of the depression, even at subthreshold level. Possibly, comorbid anxiety in depression can be understood as general distress, presence of a specific anxiety disorder, apprehension due to loss of control, or combinations of the previous components.

NR9-16
DRUG-DRUG INTERACTIONS OF LEVOMILNACIPRAN SUSTAINED-RELEASE CAPSULE WITH KETOCONAZOLE, CARBAMAZEPINE, OR ALPRAZOLAM IN HEALTHY SUBJECTS

Lead Author: Laishun Chen
Co-Author(s): Ramesh Boinpally
Nayra Gad
Antonia Periclou
Parviz Ghahramani
William M. Greenberg

SUMMARY:
Objective: Levomilnacipran (1S, 2R-milnacipran) is a potent and selective serotonin and norepinephrine reuptake inhibitor (SNRI) in late-stage clinical development for the treatment of major depressive disorder (MDD) in adults; a sustained release (SR) formulation was developed to allow for once daily dosing. Because many patients with MDD may take multiple medications, potential drug-drug interactions (DDIs) may be of clinical relevance. This report summarizes the DDI profile of levomilnacipran SR with ketoconazole (a potent CYP3A4 inhibitor), carbamazepine (a CYP3A4 inducer), or alprazolam (a CYP3A4 substrate) in healthy subjects.

Methods: Data were analyzed from 3 open-label, Phase I studies in healthy subjects. Study 1 was a crossover DDI study evaluating a single dose of levomilnacipran SR 80 mg in the absence or presence of ketoconazole 400 mg QD. Study 2 was a multiple-dose 4-period, fixed sequence study of levomilnacipran SR 120 mg QD and carbamazepine extended-release tablets 200 mg BID. Study 3 was a crossover study of levomilnacipran SR 120 mg QD and single-dose alprazolam extended-release 1-mg tablet. Noncompartmental pharmacokinetic (PK) and safety parameters were assessed in each study.

Results: In Study 1 (N=34), levomilnacipran plasma exposure was increased when administered with ketoconazole compared with levomilnacipran SR alone. The ratios of geometric means (90% CI) were 138.7% (130.7-147.1) for Cmax, and 156.8% (147.2-167.1) for
AUC0-t and 156.6% (146.9-166-9) for AUC0-?; Tmax was also increased by 2 h. In Study 2 (N=30), concomitant administration of carbamazepine and levomilnacipran SR resulted in lower levomilnacipran plasma exposure than levomilnacipran SR alone. The ratios of geometric means (90% CI) were 73.6% (69.8-77.7) for Cmax and 71.1% (68.0-74.4) for AUC0-t; there were no PK changes in carbamazepine when coadministered with levomilnacipran SR. In Study 3 (N=30), the plasma exposures of levomilnacipran or alprazolam were unaltered when levomilnacipran SR and alprazolam were coadministered.

Conclusions: There were no PK interactions between levomilnacipran SR and alprazolam. Levomilnacipran plasma exposure increased when it was coadministered with ketoconazole and decreased when coadministered with carbamazepine. However, none of these were major PK changes suggesting that generally no dose adjustment would be recommended when levomilnacipran SR is coadministered with CYP3A4 inhibitors, inducers, or substrates. This analysis was funded by Forest Laboratories, Inc.

NR9-17
PHARMACOKINETIC CHARACTERISTICS OF LEVOMILNACIPRAN SUSTAINED-RELEASED CAPSULE FOLLOWING SINGLE- AND MULTIPLE-DOSE ADMINISTRATION

Lead Author: Laishun Chen
Co-Author(s): Antonia Periclou
Parviz Ghahramani
William M. Greenberg
Elimor Brand-Schieber

SUMMARY:
Objective: Levomilnacipran (1S, 2R-milnacipran) is a potent and selective serotonin and norepinephrine reuptake inhibitor (SNRI) with approximately 2-fold greater potency for reuptake inhibition of norepinephrine relative to serotonin. A sustained release (SR) capsule formulation was developed to allow for once daily dosing. The pharmacokinetics (PK) of levomilnacipran SR capsule and oral solution after single- or multiple-dose administration was evaluated.

Methods: Data were analyzed from 3 randomized Phase I studies characterizing the PK of levomilnacipran SR or oral solution in healthy subjects aged 18-45 years. Study 1 was a double-blind, placebo-controlled study in which subjects received a single dose (SD) of levomilnacipran SR 25, 50, or 100 mg, escalating multiple doses (MD) ranging from 25-300 mg QD or placebo. Study 2 was an open-label parallel-group study of a single 40, 80, or 120 mg dose of levomilnacipran SR. Study 3 was an open-label crossover study comparing the PK of levomilnacipran SR (120 mg) with an oral solution (40 mg) after single and multiple doses.

Results: In Study 1 (N=48), levomilnacipran SR demonstrated dose-proportional increases in Cmax and AUC over the SD (25-100 mg) and MD (25-300 mg) ranges. At the same dose level, AUC0-? for single-dosing and AUC0-? for multiple dosing were similar, suggesting there is no time-dependent effect on the PK of levomilnacipran SR. In Study 2 (N=30), dose-proportional increases in Cmax and AUC0-? were observed across the levomilnacipran SR 40-120 mg SD range. Similar results across doses were observed for median Tmax (6-8 h), mean T1/2 (12.4-12.9 h), mean CL/F (23.5-29.4 L/h), and mean Vd/F (405.1-444.3 L). In Study 3 (N=24), following single and multiple-dose administration, the SR formulation showed significantly lower Cmax (SD, 40.4% lower; MD, 30.3% lower) vs oral solution but only slightly lower AUC (9% lower for single and multiple doses) after dose normalization. The SR formulation relative to oral solution showed longer Tmax (SD, 6 hr vs 4 hr; MD, 5 hr vs 2 hr) and longer T1/2 (SD, 14 hr vs 11 hr; MD, 14 vs 12 hr).

Conclusions: The multiple-dose PK of levomilnacipran SR can be predicted from single-dose PK. Levomilnacipran SR showed dose linearity in PK across the 25-120 mg SD range and 25-300 mg QD MD range. The levomilnacipran SR capsule formulation relative to the oral solution demonstrated a profile characteristic of sustained release. This analysis was funded by Forest Laboratories, Inc.

NR9-18
ASSESSMENT OF SUICIDE SCREENING SPECIFICITY BY THE ELECTRONIC ADMINISTRATION OF COLUMBIA SUICIDE SEVERITY RATING SCALE (C-SSRS) IN SELF-REPORT FORM

Lead Author: Murat Altinay, M.D.
Co-Author(s): ADELE VIGUERA, MD

SUMMARY:
Purpose: We propose an efficient two-step suicide screening process whereby all patients complete the PHQ-9 and only those with a positive item 9 response complete the C-SSRS.

Background: Cleveland Clinic's Neurological Institute has initiated systematic screening for depression using the nine-item Patient Health Questionnaire-9 (PHQ-9) as part of an electronic patient-reported outcomes collection initiative known as the Knowledge Program. Over a five year period, 15 percent of 135, 403 patients who completed the PHQ-9 across the Neurological Institute endorsed item 9 - that is, they reported suicidal thoughts. The high number of patients who endorsed PHQ-9 item 9 across our centers prompted us to evaluate the ability of PHQ-9 in adequately determining the suicide risk. The C-SSRS, a recently FDA endorsed scale for disease control and prevention was chosen for this purpose. We hypothesized that a patient-reported outcomes collection tool such as the C-SSRS would identify a significant number of false-positive screens from item 9 of the PHQ- 9 and be easily integrated into the clinical workflow.

Results: Between December 14, 2011 and April 4, 2012, 1,461 outpatients completed a baseline C-SSRS and the PHQ-9. The observed point prevalence of suicidal ideation and/or behavior was 24 percent based on responses to PHQ-9 item 9, whereas it was only 6 percent based on the C-SSRS.

Conclusions: The results of our study suggest that the electronic administration of C-SSRS in self-Report markedly reduces the number of false-positive suicide screens compared with using item 9 alone.

Objectives:
1- The participant will be able to identify Depression suicidal behavior as significant and common comorbitities in patients with neurological disorders.
2- The participant will be able to describe strategies for adequately assessing the severity of suicidal behavior by the administration of self reported scales.

NR9-19
EFFECTS OF LEVOMILNACIPRAN SR 40, 80, AND 120 MG ON FUNCTIONAL OUTCOMES IN MAJOR DEPRESSIVE DISORDER: POST HOC ANALYSES OF A PHASE III TRIAL

Lead Author: Carl Gommoll
Co-Author(s): Anjana Bose
Changzheng Chen

Leslie Citrome

SUMMARY:
Introduction: Major depressive disorder (MDD) is associated with functional impairment across many domains. Improvement in functioning is a critical component of wellness, but generally lags behind symptom improvement, particularly in patients with very severe depression. Levomilnacipran (1S, 2R-milnacipran) is a potent and selective serotonin and norepinephrine reuptake inhibitor (SNRI) with approximately 2-fold greater potency for reuptake inhibition of norepinephrine than serotonin. A levomilnacipran sustained release (SR) formulation was developed for once daily dosing. Levomilnacipran SR is in late-stage clinical development for MDD. Post hoc analyses of a positive Phase III trial (NCT00969709) evaluated functional improvement as measured by the Sheehan Disability Scale (SDS) in patients with MDD (overall patient population, baseline MADRS ?30) and the subgroup with very severe depression (baseline MADRS ?35) across the levomilnacipran SR dose range (40, 80, 120 mg/day).
Methods: Patients were randomized to fixed-dose levomilnacipran SR 40 mg, 80 mg, or 120 mg or placebo (PBO) in an 8-week double-blind study. The parameters evaluated included SDS total score mean change, SDS response (total score ?12, subscale scores ?4) and SDS remission (total score ?6, subscale scores ?2). SDS total score mean change from baseline was analyzed by a MMRM approach. Response and remission were analyzed using a logistic regression model (LOCF); odds ratio (OR) vs PBO for these outcomes were also calculated.
Results: The modified Intent-to-Treat Population (ITT; ?1 dose of study drug and 1 postbaseline MADRS assessment) comprised 704 patients (PBO=175, 40 mg=176, 80 mg=177, and 120 mg=176); the very severe ITT Population comprised 420 patients (PBO= 92, 40 mg=103, 80 mg=113, and 120 mg=112). In the overall population, LSMD vs PBO on the SDS was -1.41 (40 mg, P=.169), -2.51 (80 mg, P=.015), -2.57 (120 mg, P=.014); in the very severe population, LSMD vs PBO was -1.05 (40 mg, P=.461), -2.51 (80 mg, P=.074), and -3.08 (120 mg, P=.029). SDS response rates were 32% (PBO), 36% (40 mg, OR=1.18, P=.499), 43% (80 mg, OR=1.63, P=.046), and 46% (120 mg, OR=1.89, P=.011); in the very severe subgroup, SDS response rates were 23% (PBO), 30% (40 mg, OR=1.25, P=.537), 34% (80 mg, OR=1.59, P=.177), and 44% (120 mg, OR=2.48, P=.007). SDS Remission rates for the overall population were 22% (PBO), 25% (40 mg, OR=1.14, P=.637), 26% (80 mg, OR=1.19, P=.525), and 32% (120 mg, OR=1.61, P=.073); in patients with very severe depression, SDS remission rates were 12% (PBO), 18% (40 mg, OR=1.57, P=.305), 21% (80 mg, OR=1.84, P=.150), and 28% (120 mg, OR=2.79, P=.012).
Discussion: Levomilnacipran SR 80 and 120 mg significantly improved SDS scores in patients with MDD. The largest and most robust treatment effects were in the levomilnacipran SR 120-mg group suggesting higher doses may benefit patients, particular those with greater symptom severity. Analysis funded by Forest Labs, Inc.

NR9-20
EFFECTS OF LISDEXAMFETAMINE DIMESYLATE AUGMENTATION ON SEXUAL FUNCTION IN ADULTS WITH FULLY- OR PARTIALLY-REMITTED MAJOR DEPRESSIVE DISORDER

Lead Author: Manisha Madhoo, M.D.
Co-Author(s): Anita H. Clayton, MD (2), Richard S. E. Keefe, PhD (3), Angelo Sambunaris, MD (4), Brian Scheckner, PharmD (1), Ben Adeyi, MS (1), Erin Hartshaw, MS (1), Madhukar H. Trivedi, MD (5)

(1) Shire Development LLC, Wayne, PA; (2) University of Virginia School of Medicine, Charlottesville, VA; (3) Duke University Medical Center, Durham, NC; (4) Atlanta Institute of Medicine & Research, Atlanta, GA; (5) University of Texas Southwestern Medical School, Dallas, TX

SUMMARY:
Objective: Lisdexamfetamine dimesylate (LDX) augmentation of selective serotonin reuptake inhibitor (SSRI) monotherapy significantly improved executive function and depressive symptoms vs placebo (PBO) in adults with mild major depressive disorder (MDD) and executive dysfunction. Given the prevalence of sexual dysfunction in MDD and in those treated with SSRIs, LDX augmentation effects on sexual function were assessed.
Methods: Adults (18–55 y) with Montgomery-Åsberg Depression Rating Scale total score ?18 and Behavior Rating Inventory of Executive Function–Adult Version Global Executive Composite T score ?60 on stable SSRI monotherapy for ?8 weeks were eligible. After screening (2 wks), participants were randomized to 9 weeks of double-blind LDX (wk 1: 20 mg/d; wks 2–6: maintain or increase LDX in 10-mg weekly increments [maximum, 70 mg/d]; wks 7–9: maintain optimized dosage) or PBO augmentation. Sexual function, a predefined safety endpoint, was assessed on the 14-item Changes in Sexual Functioning Questionnaire (CSFQ-14); lower scores indicate dysfunction. Prespecified analyses included CSFQ-14 change from baseline to week 9/end of study (EOS) by sex; post hoc analyses assessed global sexual dysfunction (GSD; CSFQ-14 total score ?47 [men] or ?41 [women]) at baseline and week 9/EOS and CSFQ-14 score changes in those with or without baseline GSD. Data are presented descriptively; the study was not powered for comparative analyses of these endpoints.
Results: Mean±SD baseline CSFQ-14 total scores in men were 49.5±6.55 and 49.9±7.35 in the PBO (n=22) and LDX (n=20) groups, respectively, and 42.4±9.70 (PBO, n=48) and 40.9±10.27 (LDX, n=51) in women. Changes from baseline to week 9/EOS (LOCF) in men were 2.4±5.34 with PBO (n=21) and 2.5±4.61 with LDX (n=20) and 1.6±5.60 (PBO, n=46) and 2.7±8.47 (LDX, n=48) in women. Post hoc analyses indicated the frequency of GSD decreased from baseline to week 9/EOS (men [PBO, 36.4% to 26.1%; LDX, 40.0% to 20.0%]; women [PBO, 47.9% to 39.1%; LDX, 51.0% to 50.0%]). CSFQ-14 total score changes at week 9/EOS were numerically smaller for PBO vs LDX in those with baseline

GSD (men: 1.6±4.28 [n=7] vs 5.5±3.66 [n=8]; women: 2.6±5.10 [n=21] vs 5.0±10.1[n=24]) but not in those without baseline GSD. The frequency of treatment-emergent adverse events (TEAEs) during double-blind treatment was 73.6% with PBO and 78.9% with LDX. TEAEs occurring at a frequency of ?10% were headache (15.3%) with PBO and decreased appetite (22.5%), headache (22.5%), dry mouth (15.5%), insomnia (14.1%), and irritability (12.7%) with LDX; 5 serious TEAEs occurred during double-blind treatment (PBO, n=3 [viral gastroenteritis, salmonellosis, rhabdomyolysis]; LDX, n=2 [loss of consciousness, suicidal ideation]).
Conclusions: LDX augmentation of SSRI monotherapy did not worsen sexual function in participants with mild MDD and executive dysfunction. Further study is needed to expand on these preliminary findings. (Support: Shire Development LLC)

NR9-21
EXPERIENCES AND BARRIERS TO IMPLEMENTATION OF CLINICAL PRACTICE GUIDELINE FOR DEPRESSION IN KOREA

Lead Author: Changsu Han
Co-Author(s): Jaewon Yang, Min-Jeong Kim, Jeonghoon Ahn

SUMMARY:

Background:Clinical guidelines can improve health-care delivery, but there are a number of challenges in adopting and implementing the current practice guidelines for depression. The aim of this study was to determine clinical experiences and perceived barriers to the implementation of these guidelines in psychiatric care.
Methods:A web-based survey was conducted with 386 psychiatric specialists to inquire about experiences and attitudes related to the depression guidelines and barriers influencing the use of the guidelines. Quantitative data were analyzed, and qualitative data were transcribed and coded manually.
Results:Almost three quarters of the psychiatrists (74.6%) were aware of the clinical guidelines for depression, and over half of participants (55.7%) had had clinical experiences with the guidelines in practice.The main reported advantages of the guidelines were that they helped in clinical decision making and provided informative resources for the patients and their caregivers.Despite this, some psychiatrists were making treatment decisions that were not in accordance with the depression guidelines. Lack of knowledge was the main obstacle to the implementation of guidelines assessed by the psychiatrists. Other complaints addressed difficulties in accessing the guidelines, lack of support for mental health services, and general attitudes toward guideline necessity. Overall, the responses suggested that adding a summary booklet, providing teaching sessions, and improving guidance delivery systems could be effective tools for increasing depression guideline usage.
Conclusion:Individual barriers, such as lack of awareness and lack of familiarity, and external barriers, such as the supplying system, can affect whether physicians' implement the guidelines for the treatment of depression in Korea. These findings suggest that further medical education to disseminate guidelines contents could improve public health for depression.

NR9-22: WITHDRAWN

NR9-23
IMPACT OF FATIGUE ON OUTCOME OF SSRI TREATMENT: SECONDARY ANALYSIS OF STAR*D

Lead Author: Margaret B. Ferguson, Pharm.D.
Co-Author(s): Lauren B. Marangell, James Martinez, Stephen R. Wisniewski, Ellen B. Dennehy

SUMMARY:

Introduction. Fatigue is one of the most common and incapacitating symptoms of major depressive disorder (MDD) (Fava, 2003). Moreover, it contributes significantly to relapse and disability as well as diminished health-related quality of life (HRQOL) (Menza et al., 2003; Baldwin & Papakostas, 2006; Swindle et al., 2001). Patients who are partial responders to antidepressant treatment identify fatigue as one of the most common and bothersome residual symptoms (Fava et al. 2006). The current secondary analysis of data from the Sequenced Treatment Alternatives to Relieve Depression (STAR*D; Rush et al., 2004; Fava et al., 2003), a study comprised a series of real-world treatment trials in a broadly representative group of outpatients with MDD, describes the relationship of baseline fatigue to outcomes of Level 1 monotherapy treatment with citalopram.
Methods. The STAR*D Level 1 database included 2,876 subjects who were eligible for analysis. In this secondary analysis of the public domain database, question 14 (energy level) from the Quick Inventory of Depressive Symptomatology (QIDS-SR16) served as the proxy for fatigue. The current analysis explores presenting characteristics and outcomes of those with baseline fatigue.
Results. Of the 2,868 with complete data, 158 (5.5%) endorsed the response of "0; no change in usual level of energy", 657 (22.9%) reported "1; tires more easily than usual", 1536 (53.6%) endorsed the response of "2; makes significant personal effort to initiate or maintain usual daily activities", and 517 (18.0%) had a score of "3, unable to carry out most of usual daily activities due to lack of energy." Being female, unemployed, and having fewer years of education and lower monthly income were associated with higher rates of baseline fatigue (all $p<.0001$). Adjusted analyses indicated that higher levels of fatigue at baseline were significantly associated with a decrease in the likelihood of achieving remission (QIDS-SR score <6) at the end of Level 1 treatment (OR= 0.811, $p=0.0001$, 95% CI (0.729, 0.903)). Baseline fatigue was also associated with satisfaction and enjoyment in various domains of functioning (Q-LES-Q), with those with higher baseline fatigue experiencing lower satisfaction (ß=-2.575, $p<.0001$). Those with higher scores on baseline fatigue also demonstrated poorer mental and physical functional outcomes, as measured by SF12 Mental (ß=-1.283, $p=.0016$) and Physical (ß=-1.058, $p=.0003$) subscales.
Conclusions. The current analysis presents baseline demographic and clinical characteristics of patients in STAR*D, by differing levels of baseline fatigue. Groups differed in outcomes experienced from Level 1 treatment with citalopram, with increased levels of fatigue at study entry associated with reduced likelihood of remission, decreased overall satisfaction, and reduced mental and physical function at outcome.

NR9-24
IMPULSIVITY IN YOUNG ADULTS WITH A HISTORY OF AFFECTIVE DISORDER WITHOUT MANIC EPISODES

Lead Author: Michael D. Palmeri, B.S.
Co-Author(s): Jon E Grant, MD, JD, MPH - University of Chicago

SUMMARY:
Background: Cognitive impairments, notably of attention and memory, are frequently reported in patients with a history of affective disorders irrespective of a history of mania. Impulsivity, on the other hand, is seen more commonly in patients with bipolar disorder than in those with a history of unipolar depression.
Methods: The current study examined impulsivity in 399 young adults aged 18-29 years recruited from an ongoing longitudinal study of impulsivity in young adults. Participants were examined with the Mini-International Neuropsychiatric Interview for the DSM-IV and ICD-10 and were placed into the two groups: those with a lifetime history of unipolar depression and no history of mania (n=99; active) and those with no lifetime history of any affective disorder (n=300; control). Participants performed cognitive testing including: the Cambridge Gambling Task (CGT), Stop Signal Task (SST), Rapid Visual Information Processing task (RVP), Intra/Extradimensional Set Shift task (IED), and a Spatial Working Memory task (SWM) using the CANTAB® Eclipse 4 software pack. They also completed the Barrett Impulsiveness Scale (BIS).
Results: The active group had a longer deliberation time, a poorer quality of decision making, and less risk adjustment (p's<0.01, 0.02, and 0.03, respectively) on the CGT. The control group was more likely to have the correct response on the RVP (p<0.03). The controls also had a shorter reaction time when identifying go trials on the SST (p<0.04). For the IED in testing block 5, the only testing block that the active group differed from controls has also shown sensitivity in differentiating people with frontal variant fronto-temporal dementia (p<0.01). Predictably, the active group displayed a poorer overall strategy, revisited more previously attempted trials as well as demonstrated more total errors than the controls in the SWM task (p<0.01 for all). Participants in the active group were more likely to make quick cognitive decisions, act without thinking, and show little regard for future consequences when making decisions as reflected in the BIS (p<0.01 for all).
Conclusions: These findings of greater impulsivity in some individuals with a history of depression may explain why some depressed people may exhibit suicidal tendencies and others do not. They also elucidate further cognitive differences between depressed people and those without a history of affective disorders. Interestingly, the results from the IED suggest that patients with depression experience some sort of deficiency in the fronto-temporal lobe, a structure that has been shown to play a part decision making. Future work should be done to look at suicidality and impulsiveness in depressed patients as well as targeted studies of the fronto-temporal lobe with regards to impulsivity.

NR9-25
INCIDENCE AND TIMING OF TAPER-EMERGENT ADVERSE EVENTS FOLLOWING DISCONTINUATION OF DESVENLAFAXINE 50 MG/D IN PATIENTS WITH MAJOR DEPRESSIVE DISORDER

Lead Author: Philip T. Ninan, M.D.
Co-Author(s): Jeff Musgnung, MS, Pfizer Inc, Collegeville, PA
Michael Messig, PhD, Pfizer Inc, New York, NY
Gina Buckley, MT, MS, Pfizer Inc, Collegeville, PA
Christine J. Guico-Pabia, MD, MBA, MPH, Formerly of Pfizer Inc
Tanya S. Ramey, MD, PhD, Pfizer Inc, Groton, CT

SUMMARY:
Objective: To evaluate the incidence and timing of taper-emergent adverse events (TPAEs) following discontinuation of long-term treatment with desvenlafaxine (administered as desvenlafaxine succinate) in patients with major depressive disorder (MDD).
Methods: Adult outpatients (?18 years) with MDD who completed 24 weeks of open-label (OL) treatment with desvenlafaxine 50 mg/d were randomly assigned to 1of 3 groups (1:2:2 ratio) for the double-blind (DB) taper phase: desvenlafaxine 50 mg/d for 4 weeks (no discontinuation); desvenlafaxine 25 mg/d for 1 week followed by placebo for 3 weeks (taper); or placebo for 4 weeks (abrupt discontinuation). The primary end point, Discontinuation Signs and Symptoms Scale (DESS) total score over the first 2 weeks of the DB taper phase, has been described elsewhere. Secondary end points included the incidence and timing of TPAEs (any AE that developed or worsened in the DB taper phase). The Quick Inventory of Depressive Symptomatology Self-Report (QIDS-SR) assessed current MDD status.
Results: A total of 480 patients enrolled in the OL phase; 357 had ?1 postrandomization DESS record and were included in the full analysis set (taper, n=139; abrupt discontinuation, n=146; no discontinuation, n=72). TPAEs occurred in all groups through week 4, regardless of whether the desvenlafaxine dose was tapered. The overall incidence of any TPAE was lower in the taper vs the abrupt discontinuation group at week 1 (12% vs 30%, respectively; P<0.001); similar for the 2 groups at week 2 (17% vs 14%, respectively; P=0.520), and lower in the taper vs the abrupt discontinuation group at weeks 3 (7% vs 14%, respectively; P=0.034) and 4 (7% vs 16%, respectively; P=0.027). In the no discontinuation group, the incidence of TPAEs at weeks 1, 2, 3, and 4 was 8%, 18%, 15%, and 6%, respectively. The most common TPAEs (incidence ?2%) in the taper group were nausea and headache (3% each) at week 1 and dizziness (5%), headache (4%), and irritability (2%) at week 2. In the abrupt discontinuation group, the most common TPAEs were dizziness (8%), headache (8%), nausea (4%), irritability (3%), diarrhea (3%), vomiting (2%), abnormal dreams (2%), anxiety (2%), and insomnia (2%) at week 1; headache (3%), nausea (2%), and insomnia (2%) at week 2; and headache (3%) at week 3. In the no discontinuation group, the most common TPAE was nausea (6%) at week 2. Desvenlafaxine was generally well tolerated with no unexpected findings. Total QIDS-SR scores decreased throughout the OL phase from (mean±SD) 13.2±4.26 at OL

baseline to 7.3±4.87 at 6 months (LOCF).
Conclusion: The overall incidence of any TPAE was lower in the taper group vs the abrupt discontinuation group at week 1. Tapering of desvenlafaxine did not eliminate the occurrence of discontinuation symptoms over the 4-week taper phase. DESS scores were similar for abrupt discontinuation of desvenlafaxine vs the 1-week taper.
Sponsored by Pfizer.

NR9-26
INTERACTION OF 5-HTT AND 5-HTR1A GENE POLYMORPHISMS IN TREATMENT RESPONSES TO MIRTAZAPINE IN PATIENTS WITH MAJOR DEPRESSIVE DISORDER

Lead Author: Min-Soo Lee
Co-Author(s): Hun-Soo Chang, Ji-hyun Cha

SUMMARY:

Major depressive disorder (MDD) has been thought to be caused by malfunction of serotonin neurotransmission system. The level of serotonin released into synaptic cleft is regulated by negative feedback through serotonin 1A receptor and by reuptake through serotonin transporter on presynaptic neuron. Thus, we tested genetic association of HTR1A and HTT genetic polymorphisms with treatment response to mirtazapine, and evaluated interactive effect between the polymorphisms in patient with MDD.
Two hundred eighty three Korean patients were examined using the Structured Clinical Interview for DSM-IV Axis I disorders, and took mirtazapine at a daily dose of 15–60 mg. Clinical symptoms were evaluated using the 17-item Hamilton Depression Rating (HAM-D17) scale during 12 weeks of treatment. The genotypes of 5-HTTLPR, 5-HTT VNTR in intron2, HTR1A-1019C>G and HTR1A+272G>A of the subjects were analyzed. The genetic association was analyzed using multiple logistic regression and generalized linear model (GLM) type III controlling for age and sex as covariates.
As the results, we found significant association of 12.12.-repeat genotype of HTT VNTR with % decline of HAM-D17 at 4, 8, and 12 weeks of mirtazapine treatment. We also found the frequency of 12.12.-repeat genotype was higher in responder at 8 weeks compared that of 10-repeat allele. In addition, HTR1A+272GG genotype was significantly associated with % decline of HAM-D17 at 4, 8, and 12 weeks. However, the frequencies of GG homozygote and A allele carrier was comparable during study period. Furthermore, the patients with 12.12.-repeat of HTT VNTR and GG of HTR1A+272G>A showed the highest HAM-D17 % reduction during study period, and better treatment response status after 4 weeks. These results suggest that the interaction between HTR1A+272G>A and HTT VNTR is involved in the response to mirtazapine treatment, although individual effect may be small, and that these combination may be a useful marker for predicting treatment response to mirtazapine.

NR9-27
INTRAVENOUS KETAMINE FOR TREATMENT-REFRACTORY DEPRESSION IN MEDICALLY-COMPLEX GERIATRIC PATIENTS

Lead Author: Brett Lu, M.D., Ph.D.
Co-Author(s): Junji Takeshita MD

SUMMARY:

Introduction: For medically complex geriatric patients, providing safe and effective somatic treatment of psychiatric illnesses is often challenging. They usually have concurrent serious medical illnesses making them more susceptible to treatment-related adverse events. In treatment-refractory depression, although electroconvulsive therapy (ECT) has been the standard treatment option, many patients and their care providers often declined ECT due to higher risk and tolerability concerns. As a result, these patients, particularly those with recent central nervous system (CNS) events or cardiac diseases, endure prolonged hospitalization due to lack of an alternative effective treatment. Recent studies have suggested intravenous ketamine, an anesthesia agent, as an effective, tolerable treatment with an almost immediate onset.

Methods: Treatment-refractory patients on the geriatric psychiatry service in a large teaching-hospital were identified. Those with indications for ECT but unable to do so were offered ketamine treatment. Ketamine was delivered intravenously at 0.1 mg/kg over 40 minutes as previously reported. Standard interviews and depression scales (Montgomery Asberg Depression Rating Scale, MADRS) were performed

Results: Six patients received the ketamine procedure. Reasons for declining ECT included recent stroke, CNS tumor, severe dementia, significant cardiac disease, and previous life-threatening complications from ECT. All patients tolerated the ketamine infusion with few complaints, and there were no serious adverse events. They have all demonstrated improvement in their depression within 1-3 days, as assessed clinically or objectively (MADRS). Some of them were able to resume eating, and some of them were able to be discharged from the hospital soon after the procedure.

Conclusions: Intravenous ketamine remains a relatively novel, investigational treatment for depression, despite its promising efficacy and safety profile in the few reported studies. While a more extensive application may require larger studies, our limited experience has shown that ketamine can be a treatment offering high benefit to risk ratio for elderly, medically complex patients suffering from high level of depression, failing traditional oral therapy, and unable to proceed with ECT. We are doing further analyses to define potential impact of this treatment, in terms of quality of life, clinical outcomes, and impacts to system resources.

NR9-28
IS SHORT-WAVELENGTH "BLUE" LIGHT NECESSARY FOR TREATMENT OF SEASONAL AFFECTIVE DISORDER?

Lead Author: Carol Glod, Ph.D.
Co-Author(s): Auger RR, Crow SJ, Rivera AN, Fuentes Salgado SM, Pullen SJ, Lynch AJ, Kaufman TK, Wolfe DJ, Anderson JL

SUMMARY:

Introduction/Primary Objective
The primary objective of this study was to evaluate the effect of light
therapy using 468nm (blue-appearing) LED light compared to a narrow 612nm (orange-appearing light)
in subjects with Seasonal Affective Disorder. The 612nm-source emitted no blue wavelengths.

Methods
This was a multicenter, randomized, controlled, parallel-group design. Once randomized, participants were instructed to use light
therapy once per morning for 30 minutes. Subjects were between 21-64
years, medication free, and met criteria for DSM-IV recurrent major depression
with winter-type seasonal pattern by utilizing the (SCID-I).
The primary effectiveness variable was the SIGH-ADS (Structured Interview Guide for the Hamilton Depression RatingScale-Seasonal Affective Disorders V3) score at six weeks
posttreatment. All subjects had SIGH-ADS score >20 for inclusion.

Results
56 subjects gave written informed consent. Of those, 20 failed to meet
inclusion criteria, and 29 subjects completed the trial. Mean SIGH scores at baseline were slightly higher at baseline for those
randomized to blue light. No statistically significant differences emerged between light treatments on
SIGH-ADS scores at end point (5.6 + 6.1, 4.5 + 5.3, blue vs. orange, respectively)
Three subjects did not complete the trial
due to experiencing adverse events, which included migraine and
headache.

Discussion
Subjects treated with the narrow-wavelength (blue) source failed to exhibit lower depression scores after six weeks of treatment
than subjects treated with the non-blue source. Previous basic research showing interaction of cones with intrinsically-photoreceptive retinal ganglion cells that transduce blue light via melanopsin support the possibility that blue light is not exclusively responsible for input to the endogenous circadian pacemaker in the hypothalamus. Alternatively, failure to find group differences in this trial may result from inadequate sample size or sample collection. The results suggest the need for a larger sample and replication.

NR9-29
LEVOMILNACIPRAN SR EFFICACY IN MAJOR DEPRESSIVE DISORDER ACROSS PATIENT SUBGROUPS: POOLED ANALYSES OF 5 DOUBLE-BLIND, PLACEBO-CONTROLLED TRIALS

Lead Author: Stuart Montgomery, M.D.
Co-Author(s): Anjana Bose
Carl Gommoll
Richard Chen

SUMMARY:

Objective: Patients with major depressive disorder (MDD) comprise a heterogeneous population that can differ in demographics, depression severity, disease course, and treatment history. Successful management of MDD requires effective treatment across various patient populations. Levomilnacipran (1S, 2R-milnacipran) is a potent and selective serotonin and norepinephrine reuptake inhibitor (SNRI) with approximately 2-fold greater potency for reuptake inhibition of norepinephrine than serotonin. A levomilnacipran sustained release (SR) formulation was developed for once daily dosing. Levomilnacipran SR is in late-stage clinical development for MDD. Data from 5 short-term studies were used to evaluate the efficacy of levomilnacipran SR in adults with MDD.
Methods: Data from 2 fixed- and 3 flexible-dose randomized, double-blind, placebo-controlled trials of 8-10 weeks' duration evaluating levomilnacipran SR 40-120 mg/day were analyzed. Patients were 18-80 years of age and met DSM-IV-TR criteria for MDD. The primary efficacy measure in all studies was change from baseline to endpoint in Montgomery-Asberg Depression Rating Scale (MADRS) total score; analysis was based on the modified Intent-to-Treat (ITT) Population using the mixed-effects model for repeated measures (MMRM) approach. Pooled post hoc analyses using the MMRM approach examined MADRS change from baseline to Week 8 in patient subgroups including sex, age, and baseline depression severity.
Results: The ITT Population consisted of all patients who had received ?1 dose of study drug and had a postbaseline MADRS assessment (levomilnacipran SR=1565; placebo=1032). In primary analyses of the individual studies, least squares mean difference (LSMD) in MADRS change from baseline for levomilnacipran SR vs placebo was significantly greater in 2 fixed-dose (40, 80, and 120 mg/d; 40 and 80 mg/d) studies (-3.1 to -4.9; P<.05) and 2 flexible-dose (40-120 mg/d; 75-100 mg/d) studies (-3.1 and -4.2; P<.01); the difference was not significant in 1 flexible-dose (40-120 mg/d) study (-1.5; P=.249). In pooled analyses of all 5 studies, MADRS change was statistically significant for levomilnacipran SR vs placebo (LSMD [95% CI]) in men (-3.5 [-5.0, -2.0]) and women (-2.3 [-3.4, -1.2]; P<.001), and younger (18 to 55 years: -2.5 [-3.6, -1.5], P<.001) and older (?55 years: -3.4 [-5.3, -1.4], P<.001) patients. MADRS change was also significantly greater for levomilnacipran SR vs placebo in patients with different levels of baseline depression severity (MADRS <35: -2.6 [-3.8, -1.5], P<.001; MADRS ?35: -2.9 [-4.3, -1.4], P<.001).
Conclusions: In pooled analyses of 5 placebo-controlled trials, levomilnacipran SR showed consistent efficacy across patient

subgroups. The difference in MADRS reduction for levomilnacipran SR vs placebo was in excess of 2 points in every patient subgroup, demonstrating clinically relevant improvement across different patient populations. This analysis was funded by Forest Laboratories,

NR9-30
LISDEXAMFETAMINE DIMESYLATE AUGMENTATION THERAPY IN ANXIOUS OR NONANXIOUS MAJOR DEPRESSIVE DISORDER

Lead Author: Bryan Dirks, M.D.
Co-Author(s): George I. Papakostas, MD (2), Cynthia Richards, MD (1), Andrew J. Cutler, MD (3), Steven James, MD (4), Brooke Geibel, BA (1), Ben Adeyi, MS (1), Brian Scheckner, PharmD (1) Angelo Sambunaris, MD (5), Ashwin A. Patkar, MD (6), Madhukar H. Trivedi, MD (7)

(1) Shire Development LLC, Wayne, PA; (2) Massachusetts General Hospital and Harvard Medical School, Boston, MA; (3) Florida Clinical Research Center LLC, Bradenton, FL; (4) Formerly of Shire Development LLC, Wayne, PA; (5) Atlanta Institute of Medicine & Research, Atlanta, GA; (6) Duke University, Durham, NC; (7) University of Texas Southwestern Medical School, Dallas, TX

SUMMARY:
Objective: In a randomized, double-blind, placebo (PBO)–controlled trial, lisdexamfetamine dimesylate (LDX) augmentation of escitalopram in adults with major depressive disorder (MDD) significantly reduced Montgomery-Åsberg Depression Rating Scale (MADRS) total score vs PBO in escitalopram monotherapy nonremitters. As anxious depression is difficult to treat and associated with poor outcomes, post hoc analyses examined LDX augmentation effects in those with anxious or nonanxious depression in the aforementioned study.
Methods: After 8 weeks of open-label escitalopram (wk 1, 10 mg/d; 20 mg/d thereafter), adults with residual MDD symptoms (17-item Hamilton Depression Rating Scale [HAMD-17] scores ?4) were randomized to 6 weeks of double-blind LDX (20–50 mg/d) or PBO augmentation. The primary endpoint, MADRS total score change from week 8 (augmentation baseline) to week 14/end of study (EOS), was analyzed using ANCOVA (prespecified critical ?=0.10) with last observation carried forward (LOCF) in escitalopram nonremitters (ie, those with MADRS total score >10 at wk 8). These post hoc analyses stratified participants by anxious (HAMD-17 score ?7 on items 10?13, 15, and 16, as reported by Fava et al) or nonanxious depression at week 0 (lead-in baseline). Assessments included MADRS total score change and treatment-emergent adverse events (TEAEs).
Results: Of 173 (PBO, 85; LDX, 88) randomized participants, 129 (PBO, 64; LDX, 65) were categorized as nonremitters at week 8. Mean±SD MADRS total score change from week 8 to week 14/EOS in nonremitters was ?4.9±7.36 with PBO and ?7.1±8.04 with LDX; the least squares mean (90% CI) treatment difference significantly favored LDX (−2.3 [−4.5, −0.1]; P=0.0902). In nonremitters, anxiety-related items on the HAMD-17 (somatic and psychic anxiety) and MADRS (inner tension) did not exhibit worsening with PBO or LDX augmentation. Mean±SD MADRS total score change from week 8 to week 14/EOS in nonremitters (LOCF) with anxious depression was ?4.6±7.33 with PBO (n=58) and ?6.5±7.97 with LDX (n=54); in nonremitters with nonanxious depression, MADRS total score changes (LOCF) were ?7.7±7.81 with PBO (n=6) and ?9.6±8.24 with LDX (n=11). The frequency of any TEAE in nonremitters with anxious depression was 39.7% (23/58) with PBO and 55.6% (30/54) with LDX, and in those with nonanxious depression was 0% (0/6) with PBO and 18.2% (2/11) with LDX. The frequency of anxiety as a TEAE was 0% with PBO (in both groups), 0% with LDX in the nonanxious group, and 5.6% (3/54) with LDX in the anxious group.
Conclusions: LDX augmentation treatment response was similar in participants with anxious depression and all nonremitters. There was no overall worsening of anxiety symptom items on depression rating scales with LDX augmentation in those with anxious depression, which is reassuring because stimulants have been associated with anxiety. These findings should be confirmed prospectively in future trials. (Support: Shire Development LLC)

NR9-31
LONG-TERM EFFECTS OF POSTNATAL DEPRESSION IN FAMILIES: PSYCHIATRIC MORBIDITY IN COUPLE, PSYCHOSOCIAL ADJUSTMENT, AND COGNITIVE DEVELOPMENT IN CHILDREN

Lead Author: Maria Emília Guimarães Areias, Ph.D.
Co-Author(s): Juliana Rocha, Graduate in Psychology (1), (2)
Filipa Pires, Master in Clinical Neuropsychology (1), (2)
Sara Moreira, Master in Clinical Neuropsychology (1), (2)
Maria dos Prazeres Gonçalves, PhD in Psychology (1), (2)
Florbela Teixeira, PhD in Psychology (1), (2)
Anabela Monteiro, Master in Criminal Psychology (1), (2)
Jorge Quintas, PhD in Criminal Psychology (2), (3)
Maria Emília Guimarães Areias, PhD in Medical Psychology (1), (4)
(1) Department of Psychology of ISCS-N (CESPU)
(2) UNIPSA/ CICS (CESPU)
(3) Faculty of Law, University of Porto
(4) CINEICC, Faculty of Psychology, University of Coimbra

SUMMARY:
Introduction/ Hypotheses: Postnatal Depression (PND) has been studied on the standpoint of its causes, nature and consequences. However, its long term effects over the mental health of families are yet to unravel and emerge as an interesting issue to analyze. The main hypotheses of this study are:

families where PND occurred are more likely to have psychopathological disorders, whereas children are more prone to a worse psychosocial adjustment (PSA) and a poorer cognitive development (CD). Objectives: to study the long-term effects of PND on the PSA and psychiatric morbidity (PM) of families and on the CD of children.
Methods: Participants: The study enrolled 97 women (mean age 37.0 years old + 4.32), 60 of their partners (mean age 38.0 years old + 4.64), and 99 children (48 girls, ranging in age between 5 and 6 years old) recruited from a pool of 200 women (75 with a previous history of depression and 125 without prior psychopathology), 155 of their partners and 202 of their babies, whom we followed prospectively from pregnancy to 12 months postnatally, in a previous investigation. The present study takes place six years latter. The participants were examined on their mental health status and on their PSA. Children were also assessed on CD. Assessment Instruments: The participants responded to questions in a standardized psychiatric interview SADS-L, completed the self-report questionnaires HADS and EPDS and were interviewed regarding topics of social support, stressful life events and other information about the family. Demographic, clinical and psychosocial information about parents and information about babies' physical health and parameters along the first year, psychomotor and cognitive development, was obtained from previous survey. One of the parents completed the observational version of ASEBA questionnaire (CBCL) about PSA of the child, and the teacher at school answered to the TRF (version for school). Children were assessed on their CD with the Griffiths Scale.
Results: Six years after childbirth, 34.7% of the women had major and 7.1% minor depression, 9.5% of the men had major and 4.8% minor depression. Women that were depressed postnatally versus those that were not depressed were more likely to have depression 6 years later, to have children emotionally reactive, with sleeping and attention problems, aggressive behaviors, high scores in internalization and externalization, low scores in locomotor, performance scales and overall CD, whereas men with DPN compared with those without depression are more likely to have children with withdrawal problems. Women with PND were also less likely to have other children, after this childbirth six years ago.
Conclusions/ Discussion: PND in parents is very often severe and long lasting; furthermore, our findings suggest that PND has a longstanding effect on mental health in the couple and on PSA and CD of children.

NR9-32
LONG-TERM OUTCOME OF PANIC DISORDER: A SYSTEMATIC FOLLOW UP OVER 9 YEARS

Lead Author: Antonio E Nardi, M.D., Ph.D.
Co-Author(s): Marina D. Mochcovitch, Rafael C. Freire, Roman Amrein, Adriana Cardoso, Sergio Machado

SUMMARY:

OBJECTIVE. To follow up panic disorder (PD) patients that had discontinued drug treatment after being treated for 3 years in a prospective comparative study with clonazepam or paroxetine or their combination. We aim to investigate relapse cumulative over time and remission and the efficacy and safety of the above drugs used for treating PD after relapse. We intend to compare clinical outcome after 9 years of patients being regularly controlled. METHOD: 120 PD patients were randomized in a prospective open study to get 2mg/day clonazepam or 40 mg/day paroxetine. Patients with an insufficient primary outcome after 8 weeks were switched to combined treatment (~2mg/day clonazepam and ~40mg/day paroxetine). All three treatments were similarly and highly effective but clonazepam was better tolerated. A total of 94 patients finished long- term treatment and underwent drug discontinuation by decreasing slowly paroxetine and clonazepam. RESULTS: After two months of tapering out the drug 80% patients in the clonazepam group, 55% on the paroxetine but by no patient in the combination group were drug free. After six months 89% / 64% / 44% patients from the clonazepam/paroxetine/combination group were free of drug. Panic attacks (PA)/mth, CGI-S, and mainly HAMA worsened slightly during the withdrawal period and adverse events increased as compared to the treatment period. After the withdrawal phase 66 patients were followed annually during 6 years. The remaining patients were interviewed but only at the end of the observation period, 9 years after study initiation. For the patients followed every year, the cumulative relapse rate was high, reaching 41% at the first year of follow up, and 77% and 94%, respectively after 4 and 6 years of follow up. Re-establishing antipanic treatment was successful in most cases. 90 % of patients are in average in remission (54% partial remission, 36% full remission) during the six-year period after drug withdrawal. 73% of patients were in average free of PAs during the six-year follow up, 91.1% had a GCI-S score of 1, and 38.8% had a HAMA between 5 and 10 points. 33.3% of the patients needed drug treatment during each follow up year. Clonazepam (1 or 2 mg/day) was taken in average by 11% of patients and paroxetine (20, 30 or 40mg/day) was used in average by 20.7% of patients. Both treatments were similarly and highly effective, but clonazepam was better tolerated. The patients not followed every year had at the end of the observation period similar, but somewhat less favorable results, as could be expected: 88% were in remission, 72% had no PA, 62% had a CGI-S of 1 and 30% had a HAMA between 5 and10 and 38.9% whereby 39% were under antipanic treatment. CONCLUSION: The relapse rate was very high, but the response to the reintroduction of treatment is very good. Both paroxetine or clonazepam had the same long-term prognosis but the clonazepam group had a better profile of adverse events in the long-term treatment.

NR9-33
TAPERING OUT CLONAZEPAM OR PAROXETINE OR THEIR COMBINATION IN PANIC DISORDER PATIENTS AFTER THREE YEARS OF TREATMENT

Lead Author: Antonio E Nardi, M.D., Ph.D.
Co-Author(s): Rafael C Freire, MD PhD; Marina Mochcovicth, MD PhD; Sergio Machado, PhD; Roman Amrein, MD PhD; Adriana Cardoso, PhD; Marcio Versiani, MD PhD.

SUMMARY:
Objective: Panic disorder (PD) patients need often long-term treatment lasting for several years. Efficacy and safety during treatment and drug discontinuation are mainly established in short- and intermediate term studies although there is concern that after long term treatment severe withdrawal symptoms could emerge. We describe the successful tapering out of PD patients treated for 3 years with clonazepam or paroxetine or their combination.
Method: 94 patients being asymptomatic from their PD for at least one-year after three years of drug treatment and wishful to leave the medication participated in this trial. The protocol envisaged a dose discontinuation phase protracted over 8 weeks and 12 months of follow-up. The tapering out period could be prolonged if patients did not tolerate the standard procedure. Patients were seen biweekly during the first 2 months and monthly afterwards The dose of clonazepam was decreased in 2-week intervals by reducing of 0.5mg/week clonazepam until reaching 1 mg/day followed by weekly dose reduction of 0.25 mg/day; or 10 mg/day paroxetine until reaching 20mg/day followed by weekly dose reduction of 5mg/day. We used scales for anxiety, withdrawal symptoms and checked for recurrence of panic attacks at every visit during the period of tapering out and follow-up.
Results: The mean dose at staring the tapering out was 1.9±0.3 mg/day of clonazepam and 38.8±3.9 of paroxetine. 57.8% of clonazepam and 18.2% of paroxetine patients were free of the medication after the 2 months of tapering as the protocol. 19 (26.0%) needed another 3 months to leave the medication. 9 (12.3%) of this last group used also mirtazapine or carbamazepine as adjunct therapy during this period. 3 (4.1%) patients gave up the tapering due to return of anxiety symptoms. The withdrawal symptoms were mild and observed in 55 (75.3%) patients. No serious adverse events were observed. Insomnia, tremor, nausea, sweating, headache, and subjective anxiety were the main complains. Patients of the clonazepam group had during the withdrawal period fewer side effects/withdrawal symptoms than those of the paroxetine or combination group and significantly more patients of the clonazepam group were drug free, asymptomatic and without AE at the end of the first follow up year.
Conclusion: It is possible to take the clonazepam and paroxetine slowly out even after a long treatment without any major withdrawal symptom. The dose should be tapered slowly and some adjunct drug may be useful for some cases.

NR9-34
MILD COGNITIVE DISORDER AND DEPRESSION: TREATMENT WITH ASSOCIATION BETWEEN GALANTAMINE AND ESCITALOPRAM

Lead Author: Julio César Zarra, M.D.
Co-Author(s): María Belén Grecco

SUMMARY:
INTRODUCTION: To evaluate the efficacy of galantamine and escitalopram association in patients with Mild Cognitive Disorder and Depression. So there is a possible relation between the deficit in executive and cognitive cerebral function and depression or relation between the serotonin system and cholinergic system in relation with disease comorbidity cognitive-depression.
HYPOTHESIS: To evaluate the therapeutic response in patients with comorbility between Mild Cognitive Disorder and Depression in treatment with Galantamine (acetylcholinesterase inhibitor) with Escitalopram (Selective serotonin reuptake inhibitors) and the two drugs associated.
METHODS: A group of 855 patients with symptoms of Mild Cognitive Disorder and Depression (DSM IV-TR criteria) were separated in 3 groups of 285 patients. Each group received different treatment in a 12 months period:
Group 1: Galantamine 16 mg/day. (Extended release capsules: 16 mg.)
Group 2: Escitalopram 10 mg/day.
Group 3: both drugs, same dose.
RESULTS: The therapeutic response evaluated in Hamilton Scale for Depression (HAM-D), Montgomery and Äsberg Depression Rating Scale (M.A.D.R.S.), Mini Mental State Examination (M.M.S.E.) and Global Clinical Impression (G.C.I.) scores during 12 months. In the third group who received the two drugs associated, had much better response than the others and “brain enhancer”.
CONCLUSION: The group who received the association of the cholinergic agent Galantamine with antidepressant (SSRIs) Escitalopram had a relevant satisfactory therapeutic response: the best result, so there is a possible relation between the deficit in cholinergic systems and depression.
DISCUSSION: Could be cerebral cholinergic systems deficit a generator of Depressive Disorder?

NR9-34
OBSESSIVE BELIEFS IN MAJOR DEPRESSION

Lead Author: Oya Guclu
Co-Author(s): RAMAZAN KONKAN,ÖMER SENORMANCI,OYA GUCLU,ERKAN AYDIN,MURAT ERKIRAN

SUMMARY:
INTRODUCTION: Beck et al. indicated that dysfunctional thoughts and schemes may render an individual prone to depression (Beck et al., 1979). It has been reported that dysfunctional thoughts and attitudes prior to therapy may also be predictive of treatment outcome in depression (Dobson & Breiter, 1983; Shankman et al., 2003). Levels of dysfunctional thoughts are found to be higher in depressive patients than in non-depressive subjects, and also higher in patients with chronic depression than in subjects with no chronic depression (Ley et al., 2011). Several studies show that higher levels of dysfunctional beliefs may be an indication of a poor response to pharmacotherapy and psychotherapy (Pedrelli et al., 2008; Peselow et al., 1990). NIMH collaborative depression study reported that lower levels of dysfunctional attitudes may be a predictor of a positive response to cognitive behavioral therapy (CBT) (Sotsky et al., 1991).
There has been an increase in the number of studies on identification of dysfunctional thoughts and beliefs after significance of dysfunctional thoughts and schemes in development and maintenance of psychiatric disorders has been demonstrated. The Obsessive Compulsive Cognitions Working Group reported that three different belief domains including Perfection-

ism/Certainty, Responsibility/Threat Estimation, Importance/ Control of Thoughts are important in development and maintenance of Obsessive Compulsive Disorder (OCD) based on a factor analysis (Obsessive Compulsive Cognitions Working Group, 2005). There is an ongoing debate on specificity of these beliefs to OCD. It has been sugggested that obsessive beliefs can be common mediators not only in the development of OCD, but also of many anxiety and emotional disorders (Tolin et al., 2006; Konkan et al., 2012).
Although it has been reported that significance of differences changes after controlling for confounding effect of depression and anxiety levels while comparing obsessive beliefs in several anxiety disorders, we haven't seen any study which evaluated obssessive beliefs in depressive patients in the literature. Identification of obsessive beliefs in depressive patients may be beneficial for determination of novel cognitive behavioral interventions. The aim of this study was to identify obsessive beliefs in depressive patients and make a comparison with healthy volunteers.
METHOD: The study included 106 patients who presented to the Bakirkoy Research and Training Hospital for Psychiatry, Neurology and Neurosurgery out-patient clinic and diagnosed with depression according to the DSM-IV-TR criteria and a control group of 98 healthy volunteers with similar sociodemographic characteristics. The Obsessive Beliefs Questionnaire-44 (OBQ-44), State-Trait Anxiety Inventory (STAI), and Beck Depression Inventory (BDI) were used for data collection.
RESULTS: In the depression group, the depression score was 27.4±11.6; the STAI state score was 49.6±10.7; and the STAI trait score

NR9-36
PERCEPTIONS AND EVALUATION OF COGNITIVE FUNCTIONING AMONG PSYCHIATRISTS FROM DIFFERENT COUNTRIES IN MAJOR DEPRESSIVE DISORDER

Lead Author: Jennifer C. Samp, M.S., Pharm.D.
Co-Author(s): Kasem Akhras, Emna El Hammi, Cécile Rémuzat, Jean-Paul Auray, Michel Lamure, Samuel Aballéa, Amna Kooli, Mondher Toumi

SUMMARY:
Many studies have suggested that major depressive disorder (MDD) is a psychiatric condition often associated with cognitive dysfunction. Despite this, there is a lack of guidance addressing assessment of cognitive function in MDD. The aim of this study was to examine psychiatrists' perceptions and evaluation of cognitive assessment across different countries in routine clinical practice.

An online survey was administered to a database of psychiatrists in the United States (US), Germany (DE), France (FR), Spain (ES), Hong Kong (HK), and Australia (AU). Practicing psychiatrists were eligible to participate if they saw at least 50 patients per month and regularly assessed cognitive function in schizophrenia, MDD, and/ or bipolar disorder. The survey asked psychiatrists about their perceptions of cognitive function in MDD patients, evaluation of cognitive function, and instruments used in assessment of cognitive function.

A total of 61 psychiatrists participated in the survey [US (n=15), DE (n=10), FR (n=12), ES (n=10), HK (n=6) and AU (n=8)]. Both similarities and important differences were observed among psychiatrists across the different countries. The majority of psychiatrists in all countries reported that they regularly assess cognitive functioning in MDD patients. When asked to estimate the percent of their MDD patients with cognitive dysfunction, US psychiatrists estimated this at only 45%. Psychiatrists in all other countries estimated a higher percent of MDD patients with cognitive dysfunction and HK psychiatrists estimated this at 100%. In evaluating cognitive function, the majority of FR psychiatrists reportedly relied on patient history interview for assessment (83%). The remainder reported using a cognitive instrument or a combination of cognitive instrument and patient history interview. In the US, DE, AU and HK, around 60% of psychiatrists used patient history interview alone for cognitive assessment. ES psychiatrists reported equal use of patient history and cognitive instruments. Of those who reported using cognitive instruments for cognition evaluation, only 9 psychiatrists named instruments that were appropriate for assessment of cognitive function. The remaining psychiatrists reported other clinical measures not actually intended for measurement of cognitive function.

Overall, psychiatrists in routine clinical practice settings value the assessment of cognitive function in MDD. However, the extent to which cognitive function is perceived and assessed varies across countries. There is a lack of standardization in assessment of cognitive function in routine care. Additionally, many psychiatrists confuse cognitive assessment instruments with other clinical measures. Consequently, there may be a need for education among health professionals about cognitive function in MDD and a call for standardized guidance on assessment of cognition.

The study was sponsored and funded by the Takeda Pharmaceutical Company and H. Lundbeck A/S

NR9-37
EARLY IMPROVEMENT AND SUSTAINED RESPONSE WITH VILAZODONE IN PATIENTS WITH MAJOR DEPRESSIVE DISORDER: POOLED ANALYSES FROM TWO PHASE III TRIALS

Lead Author: Rakesh Jain, M.D., M.P.H.
Co-Author(s): Dalei Chen
John Edwards
Maju Mathews

SUMMARY:
Background: In patients with major depressive disorder (MDD), robust and early improvement of symptoms with antidepressant therapy is associated with better treatment outcomes and longer-term response and remission. Vilazodone, a serotonin reuptake inhibitor and 5-HT1A receptor partial agonist, is approved by the US Food and Drug Administration for treatment of MDD in adults. Post hoc analyses using data from 2 positive, placebo-controlled trials evaluated sustained

response with vilazodone in patients with MDD.

Methods: Post hoc analyses were carried out using data from two positive 8-week, double-blind, placebo-controlled trials (NCT00285376, NCT00683592). Both trials were of similar design comprising adult patients with DSM-IV-TR–defined MDD. Patients randomized to vilazodone were titrated to a target dose of 40 mg (10 mg QD for 2 days, 20 mg QD for the next 7 days and 40 mg QD thereafter), taken once daily with food. The primary efficacy assessment in both trials was the Montgomery-Asberg Depression Rating Scale (MADRS). Post hoc pooled analyses evaluated the proportion of patients and the associated odds ratio (OR) for achieving sustained response (defined as having ?50% change from baseline in MADRS score at the last 2 visits of double-blind treatment) and early sustained response (meeting response criteria at Week 1 or 2 and at last 2 visits of double-blind treatment). These analyses were repeated using increasingly stringent response thresholds (?50% improvement and MADRS total score ?16, ?14, and ?12). Sustained response and early sustained rates were analyzed using a logistic regression model with treatment group and corresponding MADRS baseline value as explanatory variables.

Results: The Intent-to-Treat Population comprised 432 placebo-treated patients and 431 vilazodone-treated patients who had ?1 postbaseline MADRS assessment. Baseline MADRS scores were 31.4 in both treatment groups. Vilazodone-treated patients compared with placebo were more likely to demonstrate early sustained response (9% vs 4%; OR=2.29; P=.005); this remained true when all MADRS early sustained response criteria were used: ?16 (9% vs 4%, OR=2.29, P=.005); ?14 (7% vs 4%, OR=2.16, P=.017); ?12 (6% vs 3%, OR=2.47, P=.014). At the end of study, significantly more vilazodone- versus placebo-patients met sustained response criteria (32% vs 22%, OR= 1.65, P=.001). Vilazodone treatment remained significantly superior versus placebo on sustained response even when increasingly stringent MADRS response cutoffs were used: ?16 (31% vs 21%, OR=1.66, P=.001); ?14 (28% vs 19%, OR=1.66, P=.002); ?12 (25% vs 17%, OR=1.65, P=.003).

Discussion: Significantly more vilazodone patients compared with placebo patients showed early sustained and sustained response.

This study was funded by Forest Laboratories, Inc.

NR9-38
POST HOC ANALYSIS OF LISDEXAMFETAMINE DIMESYLATE AUGMENTATION THERAPY EFFECTS ON SLEEP-RELATED ENDPOINTS IN ADULTS WITH MAJOR DEPRESSIVE DISORDER

Lead Author: Angelo Sambunaris, M.D.
Co-Author(s): Cynthia Richards, MD (2), Madhukar H. Trivedi, MD (3), Andrew J. Cutler, MD (4), Ashwin A. Patkar, MD (5), Steven James, MD (6), Brooke Geibel, BA (2), Brian Scheckner, PharmD (2), Ben Adeyi, MS (2), Manisha Madhoo, MD (2)
(2) Shire Development LLC, Wayne, PA; (3) University of Texas Southwestern Medical School, Dallas, TX; (4) Florida Clinical Research Center LLC, Bradenton, FL; (5) Duke University, Durham, NC; (6) Formerly of Shire Development LLC, Wayne, PA

SUMMARY:
Objective: In 2 randomized, placebo (PBO)–controlled, double-blind trials, lisdexamfetamine dimesylate (LDX) augmentation of SSRI monotherapy in adults with major depressive disorder (MDD) improved depressive symptoms and executive function vs PBO. As stimulants can cause insomnia and sleep-related adverse events (AEs), post hoc analyses were conducted to assess LDX augmentation effects on sleep-related endpoints.
Methods: In study 203, adults with residual MDD symptoms (17-item Hamilton Rating Scale for Depression [HAMD-17] score ?4) after 8 weeks of open-label escitalopram (wk 1: 10 mg/d; 20 mg/d thereafter) were randomized to 6 weeks of double-blind LDX (20–50 mg/d) or PBO augmentation. The primary endpoint was Montgomery-Åsberg Depression Rating Scale (MADRS) total score change from augmentation baseline to end of study (EOS) in escitalopram nonremitters (ie, augmentation baseline MADRS total score >10). In study 205, adults with MADRS total score ?18 and Behavior Rating Inventory of Executive Function–Adult Version (BRIEF-A) Global Executive Composite (GEC) T score ?60 after ?8 weeks of stable SSRI monotherapy were screened (2 wks) and randomized to 9 weeks of double-blind LDX (wk 1: 20 mg/d; wks 2–6: maintain or increase LDX in 10-mg increments weekly to 70 mg/d; wks 7–9: maintain optimized dose) or PBO augmentation, followed by 2 weeks of single-blind PBO. The primary endpoint was BRIEF-A GEC T score change from baseline to EOS. These post hoc analyses report treatment differences in sleep-related MADRS (both studies), HAMD-17 (study 203), and Quick Inventory of Depressive Symptomatology, Self-Report (QIDS-SR; study 203) items and sleep-related treatment-emergent AEs (TEAEs) during augmentation.
Results: Each study met statistical significance for the specified primary efficacy endpoint (based on ANCOVA with LOCF); least squares mean treatment differences favored LDX for change on MADRS total score in study 203 (–2.3 [90% CI: –4.5, –0.1]; P=0.0902; prespecified critical ?=0.10) and BRIEF-A GEC T score in study 205 (–8.0 [95% CI: –12.7, –3.3]; P=0.0009). Treatment differences did not favor LDX or PBO at EOS (the CIs crossed 0) on the MADRS reduced sleep item in both studies, the HAMD-17 initial, middle, or delayed insomnia items in study 203, or the QIDS-SR falling asleep, sleeping through the night, or waking up too early items in study 203. Mean (90% CI) treatment differences on the QIDS-SR sleeping too much item favored LDX at EOS (–0.37 [–0.594, –0.155]) in escitalopram nonremitters. The frequency of insomnia as a TEAE during augmentation was 7.1% (6/85) with PBO and 4.5% (4/88) with LDX in study 203 and 2.8% (2/72) with PBO and 14.1% (10/71) with LDX in study 205; other sleep-related TEAEs will be reported.

Conclusions: These post hoc analyses suggest LDX augmentation may not be associated with worsened sleep-related rating scale endpoints vs PBO. Insomnia was reported as a TEAE in some participants. (Support: Shire Development LLC)

NR9-39
PREDICTING DEPRESSION IN PATIENTS INITIATING TREATMENT FOR HEAD AND NECK CANCER

Lead Author: Mark Thomsen, B.A.
Co-Author(s): Matthew Dobbertin, MD, William M. Lydiatt, MD, Kendra Schmid, PhD, and William J. Burke, MD

SUMMARY:

Introduction: Depression occurs in up to 40% of patients being treated for cancer of the head and neck (HNC) with significant impact on morbidity and mortality. In addition to known risk factors for depression, such as personal or family history of depression, there are several factors unique to HNC, which make this patient population particularly vulnerable to psychiatric complications. These include aggressive and lengthy treatment strategies, morbid effects from the disease and its treatment, and high rates of alcohol and tobacco use. Strategies to prevent the occurrence of depression in this population might include prophylactically treating all patients about to undergo treatment for HNC or only those considered to be at high risk to develop depression. Many studies have looked at predictors of depression in this at-risk population of patients. Reported risk factors have included age, social support, education, stage and size of tumor, and depression before treatment, though there have been very few prospective analyses.

Methods: A NIMH-funded randomized, double blind 16 week comparison of escitalopram versus placebo was conducted in a group of non-depressed subjects diagnosed with HNC who were about to begin cancer treatment. Subjects were stratified by sex, site, stage (early versus advanced), and by primary modality of treatment (radiation versus surgery). The primary outcome measure was the number of participants who developed moderate or greater depression predefined as a score > 11 on the QIDS-SR-16. Potential baseline factors that have previously been reported as risk factors for depression were examined including: age, sex, education, clinical stage, personal or family history of depression or suicide attempts, other psychiatric history, tumor site, urban vs. rural place of residence, and social support.

Results: Of the 148 patients randomized, significantly fewer subjects receiving escitalopram developed depression (10% escitalopram vs. 24.6% placebo, stratified log-rank test p=0.04). Participants at baseline who went on to develop depression had higher baseline symptoms of depression (t= -3.63, P=0.0004). No other baseline measure predicted whether patients became depressed.

Conclusions: Our data supports prior findings that patients with depressive symptoms at the start of HNC treatment are at greater risk of developing depression. However, we found no other baseline factors that might allow targeted prophylactic treatment. New cases of depression can be reduced in this population by the prophylactic use of escitalopram. Since our data do not suggest a profile of patients who could be targeted, all patients should be considered for this intervention.

Forest Research Institute provided study drug and matching placebo for this research.

NR9-40
RESIDUAL FATIGUE DURING TREATMENT WITH SSRI FOR MAJOR DEPRESSIVE DISORDER: SECONDARY ANALYSIS OF STAR*D

Lead Author: Ellen B. Dennehy, Ph.D.
Co-Author(s): Lauren B. Marangell, James Martinez, Stephen R. Wisniewski

SUMMARY:

Introduction. Fatigue is one of the most common and incapacitating symptoms of major depressive disorder (MDD) (Fava, 2003). Moreover, it contributes significantly to relapse and disability as well as diminished health-related quality of life (HRQOL) (Menza et al., 2003; Baldwin & Papakostas, 2006; Swindle et al., 2001). Patients who are partial responders to antidepressant treatment identify fatigue as one of the most common and bothersome residual symptoms (Fava et al. 2006). This secondary analysis of the Sequenced Treatment Alternatives to Relieve Depression (STAR*D; Rush et al., 2004; Fava, 2003), a study comprised a series of real-world treatment trials in a broadly representative group of outpatients with MDD, describes the fluctuations in symptoms of fatigue, and consequences on outcomes, during Level 1 treatment with citalopram.

Methods. The STAR*D Level 1 database included 2,876 subjects who were eligible for analysis. In this secondary analysis of the public domain database, question 14 (energy level) from the Quick Inventory of Depressive Symptomatology (QIDS-SR16) served as a proxy for fatigue. Patients were grouped into one of four groups by fatigue status: none (no fatigue at Level 1 entry or exit), treatment emergent fatigue (no fatigue at entry, fatigue at exit), remission (fatigue at entry, none at exit), and residual fatigue (fatigue at both entry and exit).

Results. Of the 2,840 patients with complete data, 99 (3.5%) were classified as having no fatigue during Level 1, 59 (2.1%) had treatment emergent fatigue, 954 (33.6%) had fatigue that remitted during treatment, and 1728 (60.8%) were categorized as having residual fatigue. Within those with residual fatigue, 795 (46.0%) demonstrated some improvement of fatigue, 746 (43.2%) maintained stable levels, and 187 (10.8%) worsened over the course of treatment. The rate of Hamilton Depression Rating Scale17 -defined remission (< 8) at Level 1 exit across the residual fatigue groups was significantly different (39.4% from the “no fatigue” group, 20.3% of the “treatment emergent” fatigue group, 56.1% of the “remitted”

fatigue group, and 11.6% of those with "residual symptoms" of fatigue (p<.0001)). Satisfaction and enjoyment in various domains of functioning (Q-LES-Q) was also impacted by residual fatigue, with highest outcome scores observed in the groups with no fatigue (63.1±18.9) or remitted fatigue (69.1 ±19.1) symptoms compared to those with treatment emergent (46.6 ±16.3) or residual fatigue (46.5±19.0) during treatment (p<.0001). Similar results were observed for physical and mental functioning, measured by the SF-12.

Conclusions. The majority of patients (60.8%) experienced persistent fatigue during depression treatment, despite relief of depression symptoms. Optimal outcomes were more likely to be achieved in patients without fatigue at Level 1 exit. Baseline predictors and outcomes associated with residual fatigue are described further.

NR9-41
RESPONSE TO LISDEXAMFETAMINE DIMESYLATE AUGMENTATION IN MAJOR DEPRESSION IN PEOPLE WITH OR WITHOUT BASELINE EXECUTIVE FUNCTION IMPAIRMENT

Lead Author: Andrew J. Cutler, M.D.
Co-Author(s): Cynthia Richards, MD (2), Brooke Geibel, BA (2), Brian Scheckner, PharmD, (2), Steven James, MD (3), Ben Adeyi, MS (2), Angelo Sambunaris, MD (4), Ashwin A. Patkar, MD (5), Robert M. Roth, PhD (6), Madhukar H. Trivedi, MD (7)

(2) Shire Development LLC, Wayne, PA; (3) Formerly of Shire Development LLC, Wayne, PA; (4) Atlanta Institute of Medicine & Research, Atlanta, GA; (5) Duke University, Durham, NC; (6) Dartmouth Medical School, Lebanon, NH; (7) University of Texas Southwestern Medical School, Dallas, TX

SUMMARY:
Objective: In a randomized, double-blind, placebo (PBO)–controlled trial of major depressive disorder (MDD), lisdexamfetamine dimesylate (LDX) augmentation of escitalopram significantly reduced Montgomery-Åsberg Depression Rating Scale (MADRS) total score compared with PBO in escitalopram nonremitters. Given that cognitive impairment is common in MDD, post hoc analyses examined whether LDX augmentation effects on depressive symptoms were dependent on the presence or absence of executive function impairment (EFI).
Method: Adults (18–55 y) with nonpsychotic MDD and residual MDD symptoms (17-item Hamilton Rating Scale for Depression scores ?4) after 8 weeks of open-label escitalopram (week 1, 10 mg/d; 20 mg/d thereafter) were randomized to 6 weeks of double-blind LDX (20–50 mg/d) or PBO augmentation. The primary endpoint, MADRS total score change from week 8 (augmentation baseline) to week 14/end of study (EOS), was analyzed by analysis of covariance (prespecified critical ?=0.10) in nonremitters (ie, participants with week 8 MADRS total score >10). In this post hoc analysis, EFI was assessed using the Behavior Rating Inventory of Executive Function–Adult Version (BRIEF-A); EFI was defined as a BRIEF-A Global Executive Composite (GEC) T score ?60 at week 0 (lead-in baseline). Because the study was not powered for post hoc analyses, data are presented descriptively (mean ± SD).
Results: At week 8, 129 (PBO, 64; LDX, 65) and 44 (PBO, 21; LDX, 23) participants were categorized as nonremitters and remitters, respectively. Mean ± SD MADRS total score decreased from week 8 to week 14/EOS in nonremitters with PBO (–4.9±7.36) and LDX (?7.1±8.04); the least squares mean (90% CI) treatment difference (primary efficacy endpoint) favored LDX (–2.3 [–4.5, –0.1]; P=0.0902). Post hoc analyses reported EFI in 78.0% (135/173) of randomized participants (nonremitters, 80.6% [104/129]; remitters, 70.5% [31/44]) at week 0, with BRIEF-A GEC T scores >2 SD above the normative mean (nonremitters, 73.8±8.25; remitters, 70.9±7.83). In nonremitters, MADRS total score change from week 8 to 14 was ?5.6±6.91 with PBO (21.2±6.79 [n=52] to 15.8±8.86 [n=47]) and ?7.7±8.60 with LDX (20.1±6.74 [n=52] to 12.6±8.77 [n=47]) in those with baseline EFI, and ?3.8±6.65 with PBO (19.0±4.20 [n=12] to 15.3±8.27 [n=12]) and ?7.5±4.80 with LDX (21.2±8.93 [n=13] to 13.8±9.70 [n=12]) in those without baseline EFI. In remitters, MADRS total score change was minimal in those with EFI (PBO, ?1.1±6.62 [n=18]; LDX, 0.6±3.84 [n=9]) and in those without EFI (PBO, ?2.0±5.66 [n=2]; LDX, 0.4±5.40 [n=10]).
Conclusions: Baseline EFI, as measured by BRIEF-A GEC T scores, was highly prevalent in individuals with residual MDD symptoms after escitalopram monotherapy. These post hoc analyses suggest LDX augmentation improved depressive symptoms among escitalopram nonremitters regardless of the presence of baseline EFI. Further study is needed to expand on these findings. (Support: Shire Development LLC)

NR9-42
SAFETY AND TOLERABILITY OF LEVOMILNACIPRAN SR IN MAJOR DEPRESSIVE DISORDER: RESULTS FROM AN OPEN-LABEL, 48-WEEK EXTENSION STUDY

Lead Author: Rajnish Mago, M.D.
Co-Author(s): Giovanna Forero
William M. Greenberg
Anjana Bose
Carl Gommoll
Changzheng Chen

SUMMARY:
Objective: Levomilnacipran (1S, 2R-milnacipran), a potent and selective serotonin and norepinephrine reuptake inhibitor (SNRI) with approximately 2-fold greater potency for reuptake inhibition of norepinephrine relative to serotonin. A levomilnacipran sustained release (SR) formulation was developed for once daily dosing. Levomilnacipran SR is in late-stage clinical development for major depressive disorder. This open-label extension study evaluated the long-term safety and tolerability of levomilnacipran SR in patients who completed 1 of 3 Phase III fixed- (NCT00969709) or flexible-dose

(NCT00969150, NCT01034462) lead-in studies.
Methods: Patients who completed 1 of 3 lead-in studies were eligible to participate in an open-label extension study (NCT01034267) to evaluate the long-term safety and tolerability of levomilnacipran SR 40-120 mg/d. This study comprised a 48-week, open-label treatment period followed by a 4-week down-taper period. Safety assessments included adverse events (AEs), laboratory tests, vital signs, ECGs, and the Columbia-Suicide Severity Rating Scale (C-SSRS). Analyses were based on the Safety Population (all patients who received ?1 dose of open-label levomilnacipran); baseline for all safety analyses was the respective lead-in study baseline.
Results: The Safety Population comprised 825 patients who entered the extension study; 47% completed the study. The mean (median) duration of treatment was 222 (280) days; mean dose was 82.7 mg/d. Serious AEs were reported in 36 (4%) patients; 7 were considered related to levomilnacipran SR treatment. Discontinuations due to AEs occurred in 13% of patients; most frequent were nausea (1%) and hyperhidrosis (1%). Treatment-emergent AEs (TEAEs) were reported in 86% of patients; most TEAEs were mild to moderate in severity. The most common TEAEs (?10%) were headache (22%), nausea (16%), upper respiratory tract infection (13%), hyperhidrosis (11%), and constipation (10%). During down-taper period, 9% of patients had a newly emergent TEAE. Mean changes from baseline in laboratory parameters were small and not clinically meaningful. Mean increases from baseline in pulse rate (9 bpm), and systolic (4 mmHg) and diastolic BP (3 mmHg) were seen. Potentially clinical significant (PCS) increase in diastolic BP (?105 mmHg and increase ?15 mmHg from baseline) occurred in 2% of patients; the incidence of PCS changes in other vital signs was <1%. Mean changes from baseline in ventricular hear rate, QTcB, and QTcF interval were 13 bpm, 11 msec, and -1 msec; PCS ECG values occurred in <1% of patients. The occurrence of C-SSRS–rated suicidal ideation was reported in 22% of patients (primarily "wish to be dead" in 13% of patients); suicidal behavior was reported in <1% patients.
Conclusions: Levomilnacipran SR 40-120 mg/day administered for up to 1 year was generally safe and well tolerated. TEAEs were consistent with the AE profile of other SNRIs.
This study was funded by Forest Laboratories, Inc.

NR9-43
SEASONALITY PATTERNS OF MOOD AND BEHAVIOR IN THE OLD ORDER AMISH.

Lead Author: Uttam K. Raheja, M.B.B.S.
Co-Author(s): Falguni Patel
Nadine Postolache
Hira Mohyuddin
Dipika Vaswani
Theodora Balis
Teodor T. Postolache

SUMMARY:

Background: The Old Order Amish are less shielded from the environmental seasonal changes than the general population as they do not use network electric light or air conditioning. Seasonality in the Amish has not been previously investigated
Methods: From Seasonal Pattern Assessment Questionnaires from 1257 Amish participants, monthly seasonal patterns were analyzed with repeated measures ANOVAs and ?2s.

Results: More than 75 % of the participants reported at least one seasonal change. More than 75% endorsed seasonality in "feeling best" but < 25% did so for "feeling worst". However the prevalence of SAD was low.

Conclusions: There were significant mild seasonal patterns reported by the majority of participants. The results were consistent with an overall winter pattern of seasonality.

NR9-44
SOCIODEMOGRAPHIC CHARACTERISTIC OF PATIENTS SUFFERING WITH DEPRESSION IN QATAR

Lead Author: Hellme Najim, M.D., M.R.C.
Co-Author(s): Dr. MAJID AL-ABDULLAH

SUMMARY:

The state of Qatar is a developing country with population 1.6 million people . 30% of the population are nationals others are expatriate with different cultural and religious background. There was no previous similar study in Qatar.
Objective
To describe the sociodemographic features depressive disorder in the hospitalized psychiatric population and to investigate different diagnoses of the depressive disorder spectrum.
Method and Result
This retrospective descriptive study was conducted in Rumilah hospital, Hamad Medical Corporation among Qatari and expatriate (Arabs and non Arabs).
A representative sample drawn from medical records of patients who were admitted to the psychiatric unit from the first of November 2009 till the 30 of April 2010.
My target population consisted of 720 subjects (Number of patients who were admitted during six months). The inclusion and exclusion criteria were used according to ICD 10 for Unipolar and bipolar disorder. It shows that 16.2 % suffering from depressive disorder (N=119) during the six months. All data were collected and analyzed using SPSS 17.0 .Unipolar depression was prominent type (70.6%) comparing to bipolar depression among male and female.

Depression was more prevalent among expatriate than nationals, female than male, highly educated individuals, skilled workers and married compared to non skilled, unemployed and single individuals. Associated stressful life events, abusing drugs and alcohol and having chronic medical condition were over represented in people who suffered from affective disorder in our study.
Qatari women in this sample consulted faith healer more than men.
Conclusion and recommendation
The present study has demonstrated that expatriate community suffers more from depression, which may be due to stress of migration, cultural and linguistic difference s. This problem has already been identified and an appropriate, well resourced

psychiatric service has been established by the government to try to manage this very vital problem.

NR9-45
THE EFFECT OF THE IMPROVEMENT IN DEPRESSIVE SYMPTOMS IN THE EARLY PERIOD OF THE TREATMENT TO THE CLINICAL RESPONSE: A NATURALISTIC FOLLOW UP STUDY

Lead Author: Serdar Bulut, M.D.
Co-Author(s): Süheyla DO?AN BULUT (M.D.)
Adnan CANSEVER (M.D.)
Hamdullah AYDIN (M.D.)
Süleyman AKARSU (M.D.)

SUMMARY:
Objective: It may be important to predict the response to treatment in patients with depressive disorder and to make the necessary interventions in early period of treatment. This study aimed to investigate the effect of the improvement in depressive symptoms in the early period of the treatment to the clinical response.
Method: ?n to the study, 87 patients diagnosed with major depressive disorder according to the Diagnostic and Statistical manual version IV (DSM-IV) with Structured Clinical Interview for the DSM (SCID-I) and started antidepressant treatment as outpatient or inpatient were included. Hamilton Depression Scale (HAM-D) was used for the initial assessment and repeated at the second, fourth and sixth weeks of the treatment. The patients whose HAM-D scale scores were reduced 50% or more at the sixth week of treatment were determined as response to treatment.
Results: At the end of the sixth week of the treatment, 73 (83.9%) of the 87 patients responded to the treatment and 14 (16.1%) of them did not. There was no statistically significant difference between the degree of reduction in HAM-D scores in the second week and the response rates at sixth week. Statistically significant difference was found between the degree of reduction in HAM-D scores in the fourth week and the response rates at sixth week.
Conclusion: ?n this study, good clinical responses were not observed in the patients who did not show any improvement in symptoms in the early periods of the treatment. This results are important in point of to predict the treatment resistance in the early stages of depression.

NR9-46
THE RELATIONSHIP BETWEEN SERUM CHOLESTEROL AND IMPULSIVENESS IN THE DIVISION OF THE REPUBLIC OF KOREAN ARMY

Lead Author: Suk-Hoon Kang, M.D.
Co-Author(s): Moon Young Chung, Department of Neuropsychiatry, Veterans Hospital Medical Center, Seoul, Korea
Ki Chung Paik Department of Psychiatry, College of Medicine, Dankook University, Chungcheongnam-do, Korea

SUMMARY:
Objectives:
Previous studies reported a correlation between the low serum cholesterol level and impulsive behaviors. In this study, we investigate an association between the serum lipid levels and psychological parameters in maladaptive soldiers in the Korean Army.

Methods:
A total of ninety-six maladaptive subjects and thirty-six normal controls in the Korean army were evaluated with the Korean version of Barratt Impulsiveness Scale (K-BIS), Korean version of Beck Suicidal Ideation Scale (K- BSIS), Korean version of Beck Depression Inventory (K-BDI) and Korean version of Beck Anxiety Inventory (K-BAI). Serum total cholesterol (TC), triglyceride (TG), low density lipoprotein (LDL) and high density lipoprotein (HDL) level were measured by overnight fasting blood sampling.

Results:
There were no significant differences between the groups in demographic characteristics. Serum total cholesterol levels ($t=-2.209$, $p=0.032$), triglyceride levels ($t=-4.593$, $p<0.001$), and LDL levels ($t=-3.753$, $p=0.001$) of maladaptive subjects were significantly lower than those of normal controls, and maladaptive subjects had higher K-BIS scores than normal controls ($t=7.542$, $p<0.001$). Negative correlation was found between LDL levels and non-planning impulsiveness in the maladaptive subjects ($r=-0.253$, $p=0.013$). LDL levels ($ß=-0.258$, $p=0.008$) and K-BDI scores ($ß=0.266$, $p=0.043$) emerged as significant predictors for non-planning impulsiveness.

Conclusion:
These results suggested that LDL level was associated with non-planning impulsiveness. These findings suggested that serum cholesterol levels might be available as a biological marker of impulsiveness. However, more large samples, longitudinal biological study and psychiatric evaluations should be needed to develop a preventive intervention for maladaptive male conscripts in the Korean army

NR9-47
THE USE OF NONADAPTIVE COPING BEHAVIORS IN AGORAPHOBIC DISORDERS

Lead Author: Carmen T. Pitti, Ph.D.
Co-Author(s): Wenceslao Peñate, Professor. Department of Personality, Assessment and Psychological Treatments. University of La Laguna, Tenerife, Canary Islands, Spain.

Juan Manuel Bethencourt , PhD. Department of Personality, Assessment and Psychological Treatments. University of La Laguna, Tenerife, Canary Islands, Spain.

Pedro BarreiroMarin; MD Canary Islands Health Service. Government of the Ca-

nary Islands. Tenerife, Canary Islands, Spain.

Ramon Gracia, Professor.
Department of Internal Medicine, Dermatology and Psychiatry. University of La Laguna, Tenerife, Canary Islands, Spain.

SUMMARY:
This work has focused on the analysis of coping behaviors used by patients with agoraphobia (AP) with or without panic. It is part of the four following behavioral patterns: avoidance behavior of phobic stimuli, behaviors of escape of phobic stimuli, interoceptive avoidance behaviors and partial coping behaviors. We call these four types of behaviors and strategies, non-adaptive coping behaviors (NCB).

In order to know to what extent they were used by the PA, a scale was developed with NCB, either both versions of overt behavior and covert behavior. This scale was administered to 235 participants (40 with agoraphobia, 30 with panic disorder, 30 with mixed anxiety-depressive disorder, 40 with depressive disorders, 25 with psychotic disorders, and a group of 70 people without pathology).

The results show that the NCB are significantly used by the AP, compared with other disorders and the nonclinical group, and the most used behaviors were those of escape and avoidance of the phobic and interoceptive stimuli. Less use of escape and avoidance behaviors are associated with overt behaviors, no significant changes occur in the use of covert behaviors. This means facing more phobic stimuli, but cognitively continue developing avoidance behaviors or covert escape.

Partial coping behaviors were the least used, mainly because the PA prefer to avoid or escape the phobic situations as the most efficient methods to reduce anxiety, leaving partial coping behaviors when they are forced to confront a phobic stimulus. These results are discussed in terms of the non-therapeutic character of these behavioral patterns.

NR9-48
TOLERABILITY OF CITALOPRAM IN ADOLESCENT DEPRESSION

Lead Author: Amy Cheung, M.D., M.Sc.
Co-Author(s): Anthony Levitt, M.D.; Stan Kutcher, M.D.; Michael Cheng, M.D. ; Derek Puddester, M.D.; Elyse Dubo, M.D. ; Jane Garland, M.D.;Margaret Weiss, M.D.; Darcy Santor, Ph.D.; Alex Kiss, Ph.D.

SUMMARY:
Objective
Although recent studies confirm the efficacy of antidepressants in the acute treatment of adolescent depression, there are few data available to allow assessment of the value of continued use of antidepressants after acute response. This study examined the benefit of continuation treatment with citalopram in adolescents aged 13-18 with major depression using a randomized placebo controlled discontinuation design. This report focuses on the tolerability of citalopram in subjects enrolled in this continuation study.
Methods
Subjects with a diagnosis of depression who responded to open label treatment with citalopram in a 12-week acute phase were randomized to placebo or continued treatment with citalopram for 24 weeks. Side effects were recorded at follow up visits during the acute and continuation phase.
Results
Twenty-five subjects were randomized to continuation treatment with citalopram (n=12) versus placebo (n=13). A higher proportion of subjects treated with citalopram (75%) remained well as compared to those on placebo (62%). Five subjects (6%) discontinued the study during the acute phase due to adverse effects: 1) nausea (n = 2), 2) rages (n = 1), 3) suicidal thoughts (n = 1), and 4) mania (n = 1). The one subject who discontinued due to suicidal thoughts reported worsening suicidal ideation during the acute phase and was discontinued from the study as per protocol. There were no spontaneous reports of new onset or worsening suicidality in any other subjects during the study. There were no serious adverse events reported during the course of the study. During the continuation phase, only one adverse effect, increased salivation, was numerically more likely to affect subjects on citalopram compared to those on placebo (> 5% difference). Similarly, there were several adverse effects that were numerically more likely to affect subjects on placebo compared to those on citalopram (> 5% difference) including inner tension, anxiety/worry, nausea/vomiting, palpitations, disinterested/detached, and cough. Subjects in the two groups (drug and placebo) were compared for differences in the proportion experiencing these side effects using Fisher's exact tests. Subjects on placebo were significantly more likely to experience palpitations (P = 0.047) and report feeling detached/disinterested compared to subjects on citalopram (P = 0.019).
Conclusion
The findings from this trial suggest that citalopram is well tolerated in the acute and continuation treatment of adolescents with depression. We found that certain side effects such as palpitations were more commonly reported in patients on placebo during the continuation phase. These side effects may be an early indication of the re-emergence of the depression or simply withdrawal symptoms from citalopram. Further research is needed to better understand why certain side effects are reported more commonly in patients who are discontinued on active treatment.

NR9-49
TRANSCRANIAL MAGNETIC STIMULATION: RESULTS FROM A RETROSPECTIVE EVALUATION OF MEAUSURED OUTCOMES DURING ROUTINE CLINICAL PRACTICE

Lead Author: Kimberly Cress, M.D.

SUMMARY:
Background: According to the National Institute of Mental Health, Major Depressive Disorder (MDD) affects approximately 14.8 million lives in the U.S., or approximately 6.7% of

American adults in a given year. Approximately 50% of these people seek help for this condition, and only 20% of those receive adequate treatment. Transcranial Magnetic Stimulation (TMS) is a noninvasive, non-systemic therapy that uses pulsed magnetic fields to induce an electric current in the brain that results in localized neuronal depolarization and beneficial effects on the symptoms of MDD. It is the purpose of this study to evaluate the standardized symptom score outcomes of TMS in routine clinical practice.

Methods: Fifty-five patients with a primary diagnosis of unipolar, non-psychotic major depressive disorder, who had previously failed to receive benefit from a prior antidepressant treatment, received TMS treatment in a single private practice setting. Patients were assessed using the Beck Depression Inventory (BDI) scale, Inventory of Depression Symptomatology Self Report (IDS-SR) and the Patient Health Questionnaire (PHQ-9) depression scale. Symptom score evaluations were performed prior to initiation of TMS treatment and again at the end of the acute phase of treatment. Long-term follow-up was reported on those patients that returned to the practice for assessment.

Results: The study population included 37 females and 18 males, with an average age of 47.6 ± 13.0 years. The mean number of TMS treatment sessions was 41.4 ± 18.2 with a range of 3,000-4,000 pulses administered daily. 37 of 51 patients (72.5%) demonstrated a minimum 50% improvement in the BDI symptom score (establishing treatment response at the end of the acute phase), while 35 of 51 patients (68.6%) reported BDI symptom scores at or below 10 (establishing remission at the end of the acute phase).Total mean baseline BDI score was 25.9 ± 10.2 (N=51) and improved to a mean 9.9 ± 8.4 (N=51) at the end of treatment. 21 patients were followed a mean 9.1 ± 5.9 months and reported a mean 10.7 ± 10.2 BDI score; 59% improvement from baseline. IDS-SR results (N=43) significantly improved from a mean of 40.2 ± 11.1 at baseline to a mean of 18.6 ± 12.4 at the end of treatment. 15 of those patients followed for a mean of 4.4 ± 4.6 months reported a mean IDS-SR score of 14.7 ± 14.8. PHQ-9 results (N=47) demonstrated similar efficacy, improving from a mean of 16.3 ± 7.0 at baseline to a mean of 5.4 ± 5.1 at the end of treatment. 15 of those patients followed for a mean of 8.6 ± 3.9 months reported a mean PHQ-9 score of 5.3± 5.3.

Conclusion: In routine clinical practice TMS shows significant improvements in symptom scores with a durable long-term outcome.

NR9-50
VARENICLINE INCREASES SMOKING CESSATION IN SUBJECTS WITH DEPRESSION: A RANDOMIZED, PLACEBO-CONTROLLED TRIAL

Lead Author: Robert M. Anthenelli, M.D.
Co-Author(s): Chad D. Morris, University of Colorado Denver; Tanya S. Ramey, Pfizer Inc.; Sarah J. Dubrava, Pfizer Inc.; Kostas Tsilkos, Pfizer Inc.; Cristina Russ, Pfizer Inc.; Carla Yunis, Pfizer Inc.

SUMMARY:
Introduction: Depression is overrepresented among smokers. The smoking cessation aid, varenicline, significantly boosts quit rates in smokers without psychiatric disorders compared with bupropion, and these effects persist up to one-year. We tested the hypothesis that varenicline significantly increases quit rates compared with placebo in smokers with a current or past diagnosis of major depressive disorder (MDD). The safety and tolerability of varenicline in depressed smokers with an emphasis on neuropsychiatric adverse events (NPAEs) was also assessed.

Methods: Five hundred and twenty-five smokers with MDD (63% female and aged 18-75 years) who were stably-treated (N=378, 72%) and/or had a remitted episode in the past two years participated in this 12-week, double-blind, parallel group, multicenter, randomized clinical trial of varenicline (1 mg twice daily) versus placebo continued with 40-weeks of non-treatment follow-up. Participants smoked ?10 cigarettes/day and were motivated to stop smoking. Efficacy was assessed by carbon monoxide-confirmed continuous quit rates (CQRs) for weeks 9-12, and continuous abstinence rates (CARs) for weeks 9-24 and 9-52, respectively. Psychiatric rating scales were administered to monitor psychiatric symptoms of depression and anxiety. All voluntarily reported and observed adverse events (AEs) were recorded and an additional semi-structured interview was used to actively solicit reporting of NPAEs of special interest.

Results: Varenicline-treated participants had significantly better CQRs at weeks 9-12 (35.9% vs. 15.6%; Odds Ratio [OR] =3.35 [95% CI: 2.16, 5.21], P<0.0001); and CARs at weeks 9-24 (25.0% vs. 12.3%; OR=2.53 [95% CI: 1.56, 4.10], P=0.0001), and weeks 9-52 (20.3% vs. 10.4%; OR=2.36 [95% CI: 1.40, 3.98], P=0.0011), than the placebo group. Psychiatric rating scales revealed no between group differences and trajectories of ratings trended toward slight improvement in mood and anxiety across time in both treatment groups. NPAEs reported in ?2% of patients in either treatment group (varenicline or placebo, respectively) were abnormal dreams (11.3% vs. 8.2%), insomnia (10.9% vs. 4.8%), anxiety (7.0% vs. 9.3%), agitation (6.6% vs. 4.1%), depression (6.6% vs. 4.8%), tension (3.5% vs. 3.0%), depressed mood (2.7% vs. 3.7%), sleep disorder (2.7% vs. 1.5%), hostility (2.0% vs. 0.4%) and restlessness (2.0% vs. 1.9%).

Conclusions: Varenicline significantly increased the continuous quit rate at weeks 9-12 and abstinence rates at weeks 9-24, and 9-52, compared with placebo. The medication was generally well tolerated with a common adverse event profile similar to that observed in smokers without psychiatric disorders. Depression rating scales did not reveal any overall deterioration in mood in either treatment group. Our findings suggest that varenicline may be a suitable smoking cessation treatment for smokers with current or past major depression.

NR9-51
VILAZODONE IMPROVES ANXIETY SYMPTOMS IN PATIENTS WITH MAJOR DEPRESSIVE DISORDER: A POOLED ANALYSIS OF EFFICACY

Lead Author: John Edwards, M.D.
Co-Author(s): Dalei Chen
Adam Ruth
Michael E. Thase

SUMMARY:
Background: Vilazodone (VLZ), a serotonin reuptake inhibitor and 5-HT1A receptor partial agonist, is approved by the US Food and Drug Administration for the treatment of major depressive disorder (MDD) in adults. A post hoc analysis was conducted on pooled data from 2 positive clinical trials to evaluate the efficacy of vilazodone on anxiety symptoms in patients with MDD.

Methods: Data from 2 Phase III 8-week, double-blind, randomized, placebo (PBO)-controlled trials (NCT00285376, NCT00683592) were pooled to analyze the effects of vilazodone on measures of anxiety. Patients were 18-70 years of age with DSM-IV-TR–defined MDD and a minimum score ?22 on the 17-item Hamilton Depression Scale (HAMD17). Patients randomized to vilazodone were titrated to a target dose of 40 mg, once daily taken with food, over a 2-week period. Post hoc analyses of anxiety included measures of general anxiety (HAMD17 Anxiety/Somatization subscale, Hamilton Anxiety Scale [HAMA] scale), psychic anxiety (HAMD17 Item 10, HAMA Psychic Anxiety subscale, MADRS Item 3 [Inner Tension]), and somatic anxiety (HAMD17 Item 11). Patient subgroups were stratified by the presence of anxious depression (HAMD17 anxiety/somatization subscale ?7 at baseline) and baseline depression severity (moderate depression=MADRS<30, moderately severe depression=30?MADRS<35, and severe depression=MADRS?35).

Results: Of 863 patients in the overall ITT Population (PBO=432; VLZ=431), 82.6% of PBO and 81.4% of VLZ patients had anxious depression at baseline; 31%, 49%, and 20% had moderate, moderately severe, and severe depression, respectively. In the overall ITT population, VLZ was significantly superior to PBO on measures of general anxiety (HAMD17 Anxiety/Somatization subscale, LSMD=-0.62, P<.01; HAMA, LSMD=-1.21, P<.01). On all measures of psychic anxiety, VLZ compared with PBO also showed significantly greater improvement (HAMD17 Item 10, LSMD=-0.19, P<.001; HAMA Psychic Anxiety subscale, LSMD=-1.30, P<.001; MADRS Item 3, LSMD=-0.33, P<.01). On measures of somatic anxiety, VLZ compared with PBO produced significantly greater reduction on HAMD17 Item 11 (LSMD=-0.14, P<.05) but not on the HAMA Somatic Anxiety subscale (LSMD=-0.32, P=.10). In patients with anxious depression, VLZ was significantly superior to PBO on all efficacy measures (P<.05) except the HAMA Somatic subscale. Greater treatment effects on anxiety were also observed in patients with moderately severe and severe depression relative to moderate depression.

Discussion: In these post hoc analyses, vilazodone vs placebo showed significantly greater improvement of anxiety symptoms; larger treatment effects were seen in patients with more severe depression and greater anxiety levels at baseline, suggesting that vilazodone is effective at treating anxiety symptoms associated with MDD.

This study was funded by Forest Laboratories, Inc.

NR9-52
WEIGHT LOSS AND DEPRESSION IN OBESE AND OVERWEIGHT SUBJECTS WITH A HISTORY OF DEPRESSION RECEIVING PHENTERMINE AND TOPIRAMATE EXTENDED-RELEASE

Lead Author: Patrick M. O'Neil, Ph.D.
Co-Author(s): Craig A. Peterson, MS, VIVUS, Inc., Mountain View, CA

SUMMARY:
Background: Obesity is associated with an increased risk of depression; weight loss (WL) has been suggested to improve depressive symptoms. In two 56-week, Phase 3 studies (N=3678), the effects of phentermine/topiramate extended-release (PHEN/TPM ER) on WL were evaluated in obese and overweight subjects with weight-related comorbidities. In this post-hoc analysis of pooled data, we assessed the effects of PHEN/TPM ER on WL and depression-related variables within the subset of subjects who were receiving antidepressant medications (SSRIs, SNRIs, or bupropion) and/or had a history of depression at baseline (depression cohort).

Methods: Changes in weight, incident depression, and antidepressant-medication use (percent increase minus percent decrease) through 56 weeks were determined in the depression cohort. Incident depression was identified by treatment-emergent symptoms of depression and quantified by the Patient Health Questionnaire (PHQ)-9. Major depression was defined as having ?5 PHQ-9 items occurring more than half of the time in the study, including positive responses to question 1 (little interest or pleasure in doing things) or question 2 (feeling down, depressed, or hopeless). Subjects were randomized to placebo (PBO; n=325), PHEN/TPM ER 3.75mg/23mg (3.75/23; n=57), PHEN/TPM ER 7.5mg/46mg (7.5/46; n=103), or PHEN/TPM ER 15mg/92mg (15/92; n=296).

Results: At baseline, 781 (21.2%) subjects were included in the depression cohort; 560 (71.7%) were taking antidepressants. At week 56, least-squares (LS) mean percent WL in this cohort was -1.1%, -5.6%, -7.6%, and -9.5% for PBO, 3.75/23, 7.5/46, and 15/92, respectively (ITT-LOCF; P<.0001 vs PBO), consistent with the larger non-depressed cohort. During the studies, depressive symptoms were experienced by 4.9%, 8.8%, 5.8%, and 7.8% of subjects receiving PBO, 3.75/23, 7.5/46, and 15/92, respectively (ITT; P>.05 vs PBO). Mean change from baseline to week 56/early termination in PHQ-9 score was -1.0, -1.0, -1.4, and -1.1, respectively (ITT; P>.05 vs PBO). Major depression occurred in 6.5%,

3.5%, 4.9%, and 6.8% of subjects in the PBO, 3.75/23, 7.5/46, and 15/92 groups, respectively (ITT; P>.05 vs PBO) and a PHQ-9 ?15 was experienced by 4.0%, 5.3%, 1.9%, and 7.1% of subjects, respectively (ITT; P>.05 vs PBO). While not statistically significant, more subjects receiving 7.5/46 and 15/92 had a net decrease in antidepressant-medication use than those receiving PBO: -0.9%, 0.0%, -4.9%, and -2.7% in the PBO, 3.75/23, 7.5/46, and 15/92 groups, respectively (ITT; P>.05 vs PBO). No drug-drug interactions between PHEN/TPM ER and antidepressants were observed during this study; PHEN/TPM ER was generally safe and well tolerated.

Conclusions: PHEN/TPM ER, studied in obese and overweight subjects with a history of or ongoing, treated depression, was generally safe, induced WL, and had minimal impact on depression (suggested by analyses of PHQ-9 score and depression symptoms). Funding provided by VIVUS, Inc.

NR9-53
GABAPENTIN REPLACES NARCOTICS AND BENZODIAZEPINES FOR PAIN, ANXIETY, AND SLEEP WITHOUT RISKING ADDICTION: PATIENTS TO AGE 93, DOSES TO 16,000 MG/D

Lead Author: Daniel Deutschman, M.D.

SUMMARY:
Background: The CDC reports "drug-induced deaths" (largely opioids and benzodiazepines) increased from 7.0 per 100,000 in 2000 to 12.9 per 100,000 in 2010 (an 84% increase). We report on a naturalistic, case series of 258 patients treated for pain, anxiety and sleep using Gabapentin to replace Opioids and Benzodiazepines.
Method: All patients presenting to a psychiatry and addictions practice with pain, anxiety and sleep symptoms were encouraged to try a titration of Gabapentin. Titrations were started at modest doses (300mg). Patients were told that Gabapentin is "off-label" for: 1) anxiety, 2) insomnia and 3) doses above 3,600mg/d. They were warned to expect sedation and dizziness on initiation. Addicting agents were withdrawn once patients improved.
Results: 258 consecutive patients presenting with pain, anxiety and sleep symptoms were started on Gabapentin. Doses ranged from 300mg to 16,000mg/d (mean 3,000mg/d). Patient ages ranged from 18 to 93 years (mean 57years). Gender was 59% female.
Diagnoses included Opioid and Anxiolytic Dependence and Withdrawal as well as Anxiety, Depression and Insomnia Spectrum Disorders. Concomitant medications included NSAID's (pain) as well as Buspirone and antidepressants (anxiety).
32% had improvement with Gabapentin monotherapy. 24% discontinued Gabapentin because of initial side effects and refused a more conservative, second titration. 44% experienced some relief of pain and anxiety but required the other non-addicting agents, listed above, for complete relief. No additional agents were required to augment sleep. No adverse events were observed.
Discussion: The exact mechanism(s) of action of Gabapentin are unknown. Gabapentin is unique in interacting with no other medications and interfering with no organs. It is exclusively excreted by the kidneys. In patients with elevated Creatinine (as high as 2.9) it was used safely but at much lower doses (100mg q12h, etc.). Gabapentin acts in one to two hours. Overdose attempts with as much as 90,000mg have led to sleep for 36 hours but no other adverse effects. Most patients accommodate to the initial side effects of sedation and dizziness in a matter of days. Many patients require increasing doses of Gabapentin after the first week or two. Increasing the dose to levels well in excess of the original FDA recommended ceiling (3,600mg/24hrs-1993) was required in 18%. Our experience with dose is at variance with McLean, 1999 in regards "non-linear bioavailability." We encouraged patients to increase dose until they achieved symptom relief. No adverse effects have been seen with sustained (> two years) high dose (> 16,000/24hrs).
Comment: The cohort of patients who required high dose (18%) would appear to be at the highest risk of death from opioids and benzodiazepines.
Conclusion: Gabapentin provides a safe and effective, non-addicting option for pain, anxiety and insomnia when dose is allowed to rise to levels required for symptom relief.

NR9-54 ONLINE SCREENING OF PRYSCHATRIC DIAGNOSIS

MAY 21, 2013

POSTER SESSION 10
SCHZIOPHRENIA AND OTHER PSYCHOTIC DISORDERS

NR10-01
EXECUTIVE FUNCTIONS RELATED TO LOWER D-SERINE SERUM LEVEL IN PATIENTS WITH SCHIZOPHRENIA

Lead Author: Jaromir Hons, M.D., Ph.D.
Co-Author(s): Rastislav Zirko, Mgr.
Department of Psychiatry, University Hospital Hradec Kralove and Charles University in Prague, Faculty of Medicine in Hradec Kralove, Czech Republic

Martina Vasatova, Dr.
Institute of Clinical Biochemistry and Diagnostics, University Hospital Hradec Kralove, Czech Republic

Eva Cermakova, Dr.
Computer Technology Center, Charles University in Prague, Faculty of Medicine in Hradec Kralove, Czech Republic

Pavel Doubek, MD
Department of Psychiatry, General Teaching Hospital and Charles University in Prague, 1st Faculty of Medicine, Czech Republic

Jan Libiger, MD
Department of Psychiatry, University Hospital Hradec Kralove and Charles University in Prague, Faculty of Medicine in Hradec Kralove, Czech Republic

SUMMARY:
Introduction: Impairment of executive functions as a part of cognitive deficit is frequently presented as one of the core symptoms associated with dysregulation of glutamatergic neurotransmission in schizophrenia. Amino acid D-serine acts as an endogenous co-agonist at the glycine modulatory site of the glutamatergic N-methyl-D-aspartate (NMDA) receptor. Significantly decreased D-serine serum levels were reported in patients with schizophrenia in comparison to healthy control subjects. Augmentation with D-serine improved cognitive functions in patients with schizophrenia treated with first and second generation antipsychotics in the clinical trials. We hypothesized that the blood serum level of D-serine might be associated with the level of executive functioning in patients with schizophrenia.
Methods: Trail Making Test, Rey-Osterrieth Complex Figure Test and Wisconsin Card Sorting Test were used to evaluate executive functions in patients with schizophrenia (n=50). D-serine and total serine serum levels were measured by High Performance Liquid Chromatography.
Results: Performance in the tests evaluating level of executive functioning significantly negatively associated with D-serine/total serine ratio ($r=-0.29$, $p>0.05$) but not with D-serine serum level in patients with schizophrenia. Lower average serum level of D-serine was found in patients with the worst performance as compared to the patients with the best performance when divided into the quartile groups according to their results in the tests ($p>0.05$).
Conclusion: The main findings of our study confirmed the hypothesis that level of executive functioning may be related to dysregulation of glutamatergic neurotransmission. Altered serum level of D-serine and D-serine/total serine ratio suggest changes of serine metabolism co-responsible for NMDA receptor dysfunction in schizophrenia. We assume that biochemical and clinical evaluation of glutamatergic functional level could classify schizophrenia into specific subtypes. Identification of cognitive dysfunction associated with laboratory evidenced changes in metabolism of amino acids in the brain may allow better treatment responses to the agents influencing glutamatergic dysfunctional system.

NR10-02
NEGATIVE SYMPTOMS AND FUNCTIONAL OUTCOME IMPROVE AFTER GROUP COGNITIVE REMEDIATION TREATMENT (REHACOP PROGRAM): A RANDOMIZED CONTROLLED TRIAL.

Lead Author: Pedro Sanchez, M.D.
Co-Author(s): Edorta Elizagarate M.D., Jesus Ezcurra M.D., Natalia Ojeda Ph.D., Javier Peña Ph.D., Gemma Garcia M.D., Olatz Napal M.D., Miguel Gutierrez M.D.

SUMMARY:
The efficacy of cognitive remediation in patients with schizophrenia has been recognized for cognitive impairment. However, clinical symptoms (particularly negative symptoms) and functional outcome do not show the same pattern/level of improvement. Therefore, the goal of this study was to test if clinical symptoms and functional disability improve after group cognitive remediation with a neuropsychological tool which includes cognitive rehabilitation and activities of activation: the REHACOP program.

Purpose: To analyze the objective changes in cognition but also in clinical symptoms, in patients with schizophrenia after cognitive remediation.

Method: Eighty-four patients with chronic schizophrenia were randomly allocated into experimental or control groups. The patients allocated on the experimental group (N= 36) received a group cognitive rehabilitation treatment using REHACOP. They attended 36 sessions of 90 minutes during three months. During the same time and frequency, patients under control condition (N=48) were involved in occupational activities. Both groups received treatment as usual (TAU). Patients underwent clinical, neuropsychological, and functional outcome pre- and post treatment assessments.

Results: Repeated measures of MANOVA showed that Group (REHACOP vs occupational therapy) x Time (pre vs post-treatment) interactions were significant for negative symptoms ($F=4.89$, $p<0.05$), disorganization ($F=7.32$, $p<0.01$) and emotional distress ($F=4.42$, $p<0.05$) showing that experimental group obtained significant improvement when compared to controls. Regarding functional outcome measures, Group x Time interaction was significant for DAS-WHO ($F=6.26$, $p<0.01$) and GAF ($F=5.64$, $p<0.05$). On the contrary, excitement ($F=1.64$, n.s.), CGI ($F=2.74$, n.s.) and positive symptoms ($F=2.10$, n.s.) did not significantly improve.

Importance/Relevance: Our results suggest that REHACOP is an effective group cognitive remediation program for minimizing existing cognitive and clinical symptoms, and functional disability. These findings support the feasibility of integrating neuropsychological rehabilitation into TAU programs for patients with lower responses to other treatment plans.

NR10-03
SHORT- AND LONG-TERM TREATMENT WITH LURASIDONE AND QUETIAPINE XR IN PATIENTS WITH SCHIZOPHRENIA: EFFECT ON METABOLIC SYNDROME

Lead Author: Jonathan M. Meyer, M.D.
Co-Author(s): P. Werner, J. Cucchiaro, R. Silva, J. Hsu, F. Grossman, A. Loebel

SUMMARY:
Introduction: Schizophrenia is associated with high risk for cardiovascular morbidity and mortality, with many individuals meeting National Cholesterol Education Program (NCEP) criteria for metabolic syndrome (MetS). This study evaluated the effect of short- and long-term treatment with lurasidone (LUR) and quetiapine XR (QXR) on the prevalence of MetS.

Methods: The effects of LUR (80 mg/d; 160 mg/d), QXR (600 mg/d), and placebo (PBO) on the prevalence of MetS were evaluated in subjects with schizophrenia enrolled in a double-blind, placebo-controlled 6 week study, and a subsequent 12 month double-blind continuation study with LUR (40-160 mg/d) and QXR (200-800 mg/d). NCEP criteria were used, with MetS defined as meeting ? 3 of the following: waist circumference (male, ?102 cm; female, ?88 cm), triglycerides (?150 mg/dl), HDL-cholesterol (male, <40 mg/dL; female, <50 mg/dL), blood pressure (?130/85 mmHg), or plasma glucose (?110 mg/dl). Between-group differences were tested for significance using Fisher's exact test (LOCF for 6 week; observed cases for 12-month data).
Results: At baseline, the prevalence of MetS was similar for LUR 24/246 (9.8%), QXR 13/119 (10.9%) and PBO 14/121 (11.6%) groups. After 6 weeks of treatment, the prevalence of MetS was lower in subjects receiving LUR and PBO (12.3% and 12.8%) compared with subjects receiving QXR (21.7%; p<0.05 for LUR vs. QXR). For the subgroup with MetS at baseline, the following median changes were observed at Week 6-LOCF in weight (LUR, +0.2; QXR, +1.3; PBO, +0.3 kg), triglycerides (LUR, -40.0; QXR, -3.0; PBO, -62.0 mg/dL), and glucose (LUR, +0.0; QXR, +10.5; PBO, +1.0 mg/dL). Among subjects who entered the 12-month continuation study, the proportion meeting NCEP criteria for MetS at baseline was similar for subjects treated with LUR 16/151 (10.6%) or QXR 8/85 (9.4%). At 12 months, the proportion meeting NCEP criteria for MetS was lower for the LUR group vs. QXR group (2/76 [2.6%] vs. 4/33 [12.1%]; p=0.046).
Conclusions: Treatment with lurasidone was associated with significantly lower rates of MetS when compared with quetiapine XR at both 6 weeks and 12 months. In the subgroup of patients with MetS at baseline, treatment with lurasidone was associated with reductions at 6 weeks in metabolic parameters, and minimal change in weight.
Clinical trials registration: clinicaltrials.gov identifier: NCT00789698
This study was sponsored by Sunovion Pharmaceuticals Inc.

NR10-04
A RANDOMIZED, 12-WEEK STUDY OF THE EFFECTS OF EXTENDED-RELEASE PALIPERIDONE (PALIPERIDONE ER) AND OLANZAPINE ON METABOLIC PROFILE, WEIGHT, INSULIN RES

Lead Author: Shaohua Hu
Co-Author(s): Mingrong Yao, Bradley Scott Peterson, Dongrong Xu, Linfeng Cao, Jianbo Hu, Jianliang Tang, Bing Fan, Zhengluan Liao, Tianyi Yuan, Yaling Li, Weiqing Yue, Ning Wei, Weihua Zhou, Manli Huang, Hongli Qi, Weijuan Xu, Yi Xu

SUMMARY:

Metabolic syndrome induced by atypical antipsychotics is highly prevalent in schizophrenic patients and is of widespread concern because it is associated with a high risk of cardiovascular disease. Much less is known regarding paliperidone extended release (ER). The objective of this study is to compare matched paliperidone-ER- and olanzapine-treated schizophrenic patients on measures of glucose and lipid metabolism. Eighty hospitalized patients with schizophrenia (DSM-?) were randomly assigned to treatment with a single antipsychotic, paliperidone ER or olanzapine, for a period of 12 weeks. At baseline and every 4 weeks, we assessed weight, subcutaneous fat, waist and hip circumferences, fasting glucose, insulin, glycohemoglobin A1, cholesterol, triglycerides, high density level (HDL) cholesterol, low density level (LDL) cholesterol, and prolactin. We also assessed at every time point body mass index (BMI), homeostasis insulin resistance (HOMA-IR), and homeostasis ?-cell function (HOMA-B). Thirty-three patients randomly assigned to paliperidone ER and twenty-three patients randomly assigned to olanzapine completed the entire 12-week treatment. Within-group analyses showed that fasting measures in both groups increased for weight, BMI, waist circumferences, hip circumference, subcutaneous fat, cholesterol, triglycerides, and prolactin. In contrast, fasting glucose, LDL and HOMA-B increased during treatment only in the olanzapine group. We also detected significantly different serum prolactin levels at all time point between the paliperidone ER- and olanzapine-treated groups, and a statistical trend for HOMA-B to increase more in the olanzapine compared to paliperidone-ER group over the 12 weeks of the trial. We did not detect, however, differential drug effects over the 12 weeks of the trial on fasting measures of BMI, glucose, glycohemoglobin A1, insulin, HDL, LDL, cholesterol, triglyceride, and HOMA-IR. The study further reinforces the necessity of regularly monitoring metabolic parameters in patients with schizophrenia taking atypical antipsychotics, including paliperidone ER.

NR10-05
ALTERED LEVELS OF PHENYLALANINE AND TYROSINE IN SCHIZOPHRENIA: A GTPCH1 METABOLIC PATHWAY ABNORMALITY?

Lead Author: Olesja Muravitskaja, B.S.
Co-Author(s): Olaoluwa Okusaga, Dietmar Fuchs, Ayesha Ashraf, Sara Hinman, Ina Giegling, Annette M. Hartmann, Bettina Konte, Marion Friedl, *Dan Rujescu, *Teodor T. Postolache
* Teodor T. Postolache and Dan Rujescu share senior authorship and equally contributed to this work.

SUMMARY:

Background: Inflammation, increasingly implicated in schizophrenia, alters the guanosine triphosphate cyclohydrolase 1 (GTPCH1) metabolic pathway. The GTPCH1 pathway produces tetrahydrobiopterin (BH4), a critical enzymatic cofactor, required for synthesis of monoamine neurotransmitters. In particular, a decrease in dopamine can arise due to relative tyrosine deficiency secondary to the limited BH4-mediated conversion of phenylalanine to tyrosine. The aim of this study was to compare phenylalanine and tyrosine level between schizophrenia patients and healthy controls.
Methods: 950 schizophrenia patients [age: 38.0±11.6, 600 (63%) males] and 1000 healthy controls [age: 53.5 ± 15.8, 490 (49%) males] were recruited; plasma levels of phenylalanine and tyrosine were measured using high performance liquid chromatography. Statistics include t tests and multivariable linear methods.

Results: In schizophrenia patients, tyrosine level was significantly lower (78.21 ± 36.90 vs. 88.62 ± 47.05, p <0.001), phenylalanine and phenylalanine/tyrosine ratio were significantly higher (77.22 ± 37.22 vs. 71.20 ± 51.70, p = 0.005; 1.13 ± 0.66 vs. 0.81 ± 0.57, p < 0.001, respectively) and the findings persisted after adjusting for age, gender, education and BMI (p = 0.009; p = 0.008; p <0.001 respectively).

Conclusions: Reduced availability of tyrosine for dopamine secretion may contribute to symptoms of schizophrenia. As an inherent major limitation- patients were medicated, and controls were not. A better understanding of the GTPCH1 metabolic pathway in schizophrenia may provide additional insight into the pathophysiology of schizophrenia and ultimately result in new treatment targets.

NR10-06
AMYGDALA VOLUME AND HISTORY OF VIOLENCE IN SCHIZOPHRENIA

Lead Author: Victor DelBene, B.A.
Co-Author(s): Pierfilippo De Sanctis, PhD
Menachem I. Krakowski MD
John J. Foxe PhD
Lars A. Ross PhD

SUMMARY:

Neuroanatomical morphology in schizophrenia has been widely reported in many regions, including the amygdala (Shepard et al., 2012). The amygdala has been implicated in perceptual fear response (LeDoux, 2000) and the processing of negatively valenced stimuli in patients with schizophrenia (De Sanctis et al., 2012). We performed a structural analysis on T1- weighed images acquired on a 1.5 T MRI scanner and compared amygdala volumes of violent (N = 37) and non-violent (N = 31) patients with schizophrenia, with matched controls (N = 29). Mean bilateral amygdala volumes were significantly smaller in non-violent schizophrenics (M = 1128.676, SD = 224.11) than in healthy controls (M = 1257.208, SD = 162.67; t(58) = 2.53, p = .014). No other significant group differences were found. This is in line with previous reports on amygdala volume in violent and non-violent schizophrenics (Barkataki et al., 2006). A reduced amygdala volume may lead to reduced fear perceptions. Reduced amygdala volume is also associated with negative symptoms , which is in turn is not related to aggressive tendencies (Arango et al., 1999). There is evidence that violent schizophrenics with structurally intact amygdalae may show inhibitory deficits resulting from structural reductions in the orbitofrontal cortex, particularly the left hemispheric grey matter and bilateral white matter (Hoptman et al., 2005). To further investigate possible links between amygdala structure and indices of early sensory perceptual processes we will assess volumetric and electrophysiological measures that were acquired from the same participants.

NR10-07
ARIPIPRAZOLE ONCE-MONTHLY FOR THE TREATMENT OF SCHIZOPHRENIA: A DOUBLE-BLIND, RANDOMIZED, NON-INFERIORITY STUDY VS. ORAL ARIPIPRAZOLE

Lead Author: W. Wolfgang Fleischhacker, M.D.
Co-Author(s): Raymond Sanchez, M.D.; Pamela P. Perry, M.S.; Na Jin, M.S.; Timothy Peters-Strickland, M.D.; Brian R. Johnson, M.S.; Ross A. Baker, Ph.D., MBA; Anna Eramo, M.D.; Robert D. McQuade, Ph.D.; William H. Carson, M.D.; John M. Kane, M.D.

SUMMARY:

Objective: To evaluate the efficacy and safety of aripiprazole once-monthly (ARI once-monthly) - an extended-release injectable suspension - vs. oral aripiprazole (ARI) for the treatment of schizophrenia in a double-blind, randomized, non-inferiority study.

Methods: Eligible patients required chronic antipsychotic treatment for the treatment of schizophrenia. Patients not receiving ARI were cross-titrated to ARI monotherapy during a 4–6-week oral conversion phase (Phase 1). All patients then entered an 8–28-week stabilization phase (Phase 2) with 10–30 mg/day of ARI. Patients already receiving ARI entered the study in Phase 2. Patients meeting stability criteria for 8 consecutive weeks were randomized (2:2:1) to a 38-week, double-blind maintenance phase (Phase 3) to receive ARI once-monthly 400 mg (ARI once-monthly-400; option to decrease to 300 mg), ARI (10–30 mg/day), or ARI once-monthly 50 mg (ARI once-monthly-50; a sub-threshold therapeutic dose for assay sensitivity; option to decrease to 25 mg). All patients receiving ARI once-monthly (-400 or -50) received concomitant ARI (10–20 mg/day) for the first 2 weeks of Phase 3. The primary endpoint was to assess the proportion of patients meeting criteria for exacerbation of psychotic symptoms/impending relapse by Week 26, with the objective to demonstrate non-inferiority in the efficacy of ARI once-monthly-400 vs. ARI. Safety and tolerability were also assessed.

Results: Overall 709 patients enrolled in Phase 1; 842 entered Phase 2, 228 of which received ARI prior to the study; 662 patients were randomized to double-blind treatment in Phase 3. By Week 26, estimated relapse rates were: 7.1% for ARI once-monthly-400, 21.8% for ARI once-monthly-50 (p<0.001), and 7.8% for ARI based on Kaplan–Meier curve for time to relapse. Time to impending relapse was significantly delayed in ARI once-monthly-400 (n=265) vs. ARI once-monthly-50 (n=131, hazard ratio [HR]=3.2, 95% CI: 1.8, 5.5; log-rank test p<0.0001), but was similar between ARI once-monthly-400 and ARI (n=266, HR=1.0, 95% CI: 0.6, 1.8; log-rank test p=0.99). The five most common treatment-emergent adverse events (?5% in any treatment group) were insomnia, weight increase, back pain, headache, and akathisia. Mean changes in body weight from baseline to endpoint were: ARI once-monthly-400 (–0.2 kg), ARI once-monthly-50 (+0.7 kg) and ARI (–1.1 kg). There were no clinically relevant changes in metabolic parameters or objective measures of extrapyramidal symptoms.

Conclusions: ARI once-monthly-400 was non-inferior to ARI,

and significantly reduced the rate of relapse and delayed time to impending relapse vs. ARI once-monthly-50. These results are consistent with recent reports of efficacy and tolerability of ARI once-monthly [1] and show tolerability similar to that of ARI (10–20 mg/day). The investigational drug ARI once-monthly may offer a new treatment option for schizophrenia.

Reference: [1] Kane J. et al. J.Clin.Psych. 2012;73:317–624.

NR10-08
ASSESSING CAREGIVER BURDEN IN CAREGIVERS OF PEOPLE WITH SCHIZOPHRENIA: DEVELOPMENT OF THE SCHIZOPHRENIA CAREGIVER QUESTIONNAIRE

Lead Author: Adam Gater
Co-Author(s): Diana Rofail, Chloe Tolley, Chris Marshall, Linda Abetz, Steven H. Zarit, Carmen Galani Berardo

SUMMARY:

Introduction
Informal (unpaid) caregivers of people with schizophrenia may experience significant 'burden' in terms of the impact of caregiving responsibilities on their own daily lives, physical health and emotional well-being. The 22-item Zarit Burden Interview (ZBI) was originally developed to assess burden among caregivers of people with Alzheimer's Disease. Whilst the instrument has since been applied to assess burden of caregivers of people with schizophrenia, establishing the scale relevance and meaningfulness for use in this population is still required.
Methods
A targeted literature review was conducted in MEDLINE, EMBASE and PsycInfo to identify qualitative research articles outlining the experiences of caregivers of people with schizophrenia. Published research articles documenting the development, validation and use of the ZBI (in schizophrenia and other disorders) were also sought. Based on evidence derived from the literature, a review of the ZBI was conducted according to best practice guidelines for self-report measures (i.e. the FDA PRO Guidance for Industry). In particular, evidence for the face and content validity of the ZBI was closely examined. The results were used to inform initial modifications to the ZBI to ensure that the questions in the scale were relevant to caregivers of people with schizophrenia and captured all issues of importance to this population. The revised scale was then completed by 19 US English speaking caregivers as part of cognitive debriefing interviews designed to assess the relevance, comprehensiveness and ability of caregivers to understand the revised scale.
Results
The review resulted in several operational changes to the ZBI, including specification of a recall period ('during the past four weeks') and modification of response options (from a 5-point Likert-type scale to an 11-point numerical rating scale) to help increase sensitivity of the scale to changes in caregiver burden. Furthermore, minor alterations were made to the phrasing of existing items and ten additional items assessing key concepts for schizophrenia caregivers were included. Feedback from caregivers during cognitive debriefing interviews supported the content validity and relevance of the resulting instrument (the Schizophrenia Caregiver Questionnaire), with scale instructions, items and response options being well understood by caregivers.
Conclusion
The 32-item Schizophrenia Caregiver Questionnaire, developed in accordance with best practice for PRO measures and with insight from caregivers of people with schizophrenia, demonstrates strong face and content validity. However, future research designed to establish the psychometric validity of the instrument is needed to confirm its adequacy to assess burden experienced by caregivers of people with schizophrenia in clinical research and practice.

NR10-09
"SOMETIMES IT'S DIFFICULT TO HAVE A NORMAL LIFE": A QUALITATIVE STUDY EXPLORING CAREGIVER BURDEN IN INFORMAL CAREGIVERS OF PEOPLE WITH SCHIZOPHRENIA

Lead Author: Adam Gater
Co-Author(s): Diana Rofail, Chloe Tolley, Chris Marshall, Linda Abetz, Steven H. Zarit, Carmen Galani Berardo

SUMMARY:

Objectives
Informal (unpaid) caregivers play an important role in the care of people with schizophrenia. As a disease typified by early onset and chronic course, caring for a person with schizophrenia may significantly impact the 'burden' experienced by caregivers in terms of their daily lives, in terms of physical health, and emotional well-being. To date, there has been limited exploration of caregiver burden via qualitative research. This study investigated the experiences of caregivers of people with schizophrenia to inform the development of a conceptual model that would provide a holistic overview of 'caregiver burden' in this population.
Methods
Face-to-face qualitative semi-structured interviews were conducted with 19 US English speaking caregivers of people with schizophrenia. Sampling quotas were employed to ensure representation of a diverse sample of caregivers in respect of: age; gender; ethnicity; relationship to the person with schizophrenia; cohabitation status with the person with the schizophrenia; and the severity and manifestation of the care recipient's schizophrenia symptoms. Questions were asked in an open-ended and non-leading manner to facilitate spontaneous reporting. Interview transcripts were analyzed using a data-driven empirical approach based on grounded theory methods. Findings were used to inform the development of a conceptual model providing a visual representation of the holistic experiences of caregivers of people with schizophrenia (including impact on daily lives, physical health and emotional well-being) in the context of disease presentation and treatment outcomes.
Results
Findings support assertions that caring for a person with schizophrenia has a significant impact on numerous facets of caregivers' lives. As documented in the newly developed con-

ceptual model, care recipients were largely dependent upon caregivers for the provision of care and, as a result, caregivers reported lacking time for both themselves and their other responsibilities (e.g. family and work). Caregivers frequently reported feeling 'alone' in their role as a caregiver and the burden experienced frequently manifested as detriments in physical (e.g. fatigue, sickness) and emotional (e.g. depression and anxiety) well-being. Positive elements of caregiving (e.g. relationship with care recipient), however, were emphasized by study participants and are also highlighted within the conceptual model.
Conclusions
Caring for a person with schizophrenia has a wide and far reaching impact on the lives of informal caregivers. Alleviation of caregiver burden therefore may be an effective means of reducing the individual and societal costs associated with schizophrenia. Future research should focus on establishing reliable and valid means of assessing burden among caregivers of persons with schizophrenia to inform the development and evaluation of interventions for reducing this burden.

NR10-10
BLONANSERIN FOR SCHIZOPHRENIA: SYSTEMATIC REVIEW AND META-ANALYSIS OF DOUBLE-BLIND, RANDOMIZED, CONTROLLED TRIALS

Lead Author: Taro Kishi, M.D., Ph.D.
Co-Author(s): Yuki Matsuda, Hiroshi Nakamura, Nakao Iwata.

SUMMARY:

BACKGROUND: There is uncertainty about the efficacy and tolerability of blonanserin in schizophrenia.

METHOD: PubMed, the Cochrane Library databases, PsycINFO, and Google Scholar were searched up to September 2012. A systematic review and meta-analysis of individual patient data from randomized, controlled trials comparing blonanserin with other antipsychotics were conducted. The risk ratio (RR), 95% confidence intervals (CI), numbers-needed-to-harm (NNH), and weighted mean difference (WMD) were calculated.

RESULTS: Four studies (total n = 1080) were identified (vs. risperidone studies [n = 508], vs. haloperidol studies [n = 572]). Comparing blonanserin with other pooled antipsychotics, there were no significant differences in the Positive and Negative Syndrome Scale (PANSS) total score (p = 0.75), PANSS positive (p = 0.41), PANSS negative (p = 0.09), and PANSS general psychopathology subscale scores (p = 0.96), and response rate (p = 0.72). However, blonanserin showed greater efficacy in PANSS negative subscale scores compared with haloperidol (WMD = -1.29, CI = -2.29 to -0.30, p = 0.01, I(2) = 0%). No significant differences were found in discontinuation rates between blonanserin and other pooled antipsychotics (due to any cause: p = 0.29, inefficacy: p = 0.32, adverse events: p = 0.56). Blonanserin had a 0.31 lower risk of hyperprolactinemia than the other pooled antipsychotics (CI = 0.20-0.49, NNH = not significant). While dizziness (RR = 0.47, CI = 0.23-0.93, NNH = not significant) and akathisia (RR = 0.54, CI = 0.32-0.90, NNH = 7) occurred significantly less often with blonanserin than with haloperidol, blonanserin had a 1.62 higher risk of akathisia than risperidone (CI = 1.18-2.22, NNH = 3).

CONCLUSION: Our results suggest that although blonanserin has a more beneficial effect on negative symptoms than haloperidol, there was a significant difference in the adverse events profile between blonanserin and other antipsychotics

NR10-11
BRAIN ACTIVATION ASSOCIATED WITH THE EFFECTS OF NON-EMOTIONAL AND EMOTIONAL DISTRACTERS DURING WORKING MEMORY MAINTENANCE IN SCHIZOPHRENIC PATIENTS

Lead Author: Jong Chul Yang, M.D.
Co-Author(s): Young-Chul Chung, MD
Gwang-Won Kim, PhD

SUMMARY:

Objective: Despite growing recognition of working memory impairment in patients with schizophrenia (SPR), few studies have assessed the neural mechanism and influential factor on cognitive dysfunction of SPR patients. The purpose of this study was to assess the influence of non-emotional and emotional distracters on working memory maintenance in SPR patients and to demonstrate the associated brain areas using functional MRI with face recognition task.

Method: 16 SPR patients (mean age = 36.5±11.6 years) and 16 healthy controls (mean age = 36.1±7.8 years) were participated. All SPR patients were diagnosed on the basis of DSM-IV-TR and had no other psychiatric disorders. They underwent 3.0 Tesla fMRI during a face recognition task with non-emotional distracters (novel face pictures) and emotional distracters (fear-provoking pictures). The paradigm consisted of trials with the sequence "encoding - maintenance - distracter - retrieval". As the encoding task, three different human faces sequentially appear once on a quartile coordinate. Subjects were instructed to look at the distracters and maintain the working memory for the encoded faces. In the retrieval task, participants were presented either the previously encoded face or a new face, asked whether they recognize the face. In the total 20 trials, the order of two types of the distracters was randomly arranged. We assessed the accuracy of face recognition task. And the brain activation maps were compared between groups and between each distracter condition by using SPM 8.

Results: The accuracies for the face recognition task were lower in SPR patients than healthy controls with non-emotional distracter (52.6% and 65.4%, respectively, $p<0.05$) and emotional distracter (53.3% and 65.6%, respectively, $p<0.05$). For non-emotional distracter, SPR patients showed significantly increased activation in the brain areas of superior frontal gyrus, dorsolateral prefrontal gyrus, ventrolateral prefrontal gyrus (VLPFG), superior parietal gyrus (SPG), inferior parietal gyrus, anterior cingulate gyrus, and fusiform gyrus (FG) ($p<0.001$). And for emotional distracter, SPR patients

showed increased activations in VLPFC, SPG, FG, hippocampus, parahippocampal gyrus, amygdale, superior and middle temporal gyrus, middle and inferior occipital gyrus (p<0.001).

Conclusion: These results demonstrated that working memory maintenance of SPR patients was significantly influenced by non-emotional and emotional distracters. And there was significant difference of brain activation pattern associated with the effects of non-emotional and emotional distracters in SPR patients. This finding will be helpful to explore the neural mechanism and influential factor on cognitive dysfunction of SPR patients.

NR10-12
CARIPRAZINE IN ACUTE EXACERBATION OF SCHIZOPHRENIA: A FIXED-DOSE PHASE III, RANDOMIZED, DOUBLE-BLIND, PLACEBO- AND ACTIVE-CONTROLLED TRIAL

Lead Author: Andrew J. Cutler, M.D.
Co-Author(s): Oksana Mokliatchouk
István Laszlovszky
Raffaele Migliore
Suresh Durgam

SUMMARY:

Objective: Cariprazine (CAR), an orally active and potent dopamine D3/D2 receptor partial agonist with preferential binding to D3 receptors, is in development for the treatment of schizophrenia and bipolar mania. CAR has demonstrated efficacy in patients with schizophrenia in Phase II (NCT00694707) and Phase III (NCT01104779) studies. This Phase III trial (NCT01104766) evaluated the efficacy, safety, and tolerability of CAR in patients with acute exacerbation of schizophrenia.

Methods: This was an international, multicenter, double-blind placebo (PBO)-controlled, parallel-group, fixed-dose study of 9 weeks duration (up to 7-day no-drug washout, 6-week double-blind treatment, 2-week safety follow-up). Patients aged 18-60 years with DSM-IV-TR–defined schizophrenia (minimum of 1 year), current episode <2 weeks, and a Positive and Negative Syndrome Scale (PANSS) score ?80 and ?120 were randomized (1:1:1:1) to CAR 3 mg/d, CAR 6 mg/d, aripiprazole (ARI) 10 mg/d (active control), or PBO. Patients were hospitalized during screening and for at least 4 weeks of double-blind treatment. Primary and secondary efficacy parameters, change from baseline to Week 6 in PANSS total score and Clinical Global Impressions-Severity (CGI-S), were analyzed using a mixed-effects model of repeated measures (MMRM) approach on the intent-to-treat (ITT) population adjusting for multiple comparisons. Safety was evaluated by adverse events (AEs), clinical laboratory values, vital signs, ophthalmology assessments, electrocardiograms (ECGs), and extrapyramidal symptom (EPS) scales.

Results: A total of 617 patients were randomized and received ?1 dose of double-blind treatment (PBO, 153; CAR 3 mg/d, 155; CAR 6 mg/d, 157; ARI, 152) (Safety Population); 66% completed the study. Baseline PANSS scores were similar among groups (PBO, 96.5; CAR 3 mg/d, 96.1; CAR 6 mg/d, 95.7; ARI, 95.6). Change from baseline to Week 6 was statistically significantly greater for both CAR groups versus PBO on PANSS total score (LSMD: CAR 3 mg/d=-6.0, P=.0044; CAR 6 mg/d=-8.8, P<.0001), and CGI-S (LSMD: CAR 3 mg/d=-0.4, P=.0004; CAR 6 mg/d=-0.5, P<.0001). ARI was also significantly superior to PBO on both measures (PANSS: -7.0, P=.0008; CGI-S: -0.4, P=.0001). Treatment-emergent AEs (TEAEs) were reported in 67%, 61%, 71%, and 66% of PBO, CAR 3 mg/d, CAR 6 mg/d, and ARI patients, respectively. Common TEAEs (?5% and twice the rate of PBO) were akathisia in the CAR 6 mg/d group, and abdominal discomfort and nausea in the ARI group; most TEAEs were mild to moderate in severity. Patients in CAR and ARI groups versus PBO had greater EPS (parkinsonism) and akathisia as determined by SAS and BARS, respectively.

Conclusion: CAR 3 mg/d and 6 mg/d demonstrated significant improvement relative to PBO on PANSS total score and CGI-S. CAR was generally well tolerated, although the incidence of EPS and akathisia was greater for CAR than PBO.

This study was funded by Forest Laboratories, Inc. and Gedeon Richter Plc.

NR10-13
CHANGES IN CARDIOMETABOLIC PARAMETERS AND METABOLIC SYNDROME STATUS IN PATIENTS WITH SCHIZOPHRENIA SWITCHING FROM OTHER ANTIPSYCHOTICS TO LURASIDONE

Lead Author: Mariam Hassan
Co-Author(s): A. Pikalov, T Niecko, K. Rajagopalan, A. Loebel

SUMMARY:

Background: Atypical antipsychotics are associated with various degrees of cardiometabolic risks including weight gain, hyperglycemia, hypertension and lipid abnormalities. An effective treatment of schizophrenia with minimal cardiometabolic risks remains a key unmet medical need. Changes in cardiometabolic parameters and metabolic syndrome status in patients with schizophrenia switching from other antipsychotics to lurasidone were examined in this analysis.
Methods: Clinically stable, but symptomatic outpatients with schizophrenia and schizoaffective disorder were switched from their current antipsychotic to lurasidone in a randomized, 6-week, open label trial, conducted in the US. An increase in cardiometabolic parameters was defined as: BMI >30kg/m2, triglycerides (?150 mg/dL), fasting plasma glucose ((FPG) ?100 mg/dL), blood pressure (systolic BP ?130 or diastolic BP ?85 mm Hg) and HDL cholesterol (<40 mg/dL in males and <50 mg/dL in females). Metabolic syndrome was defined by the International Diabetes Federation as those with a BMI >30kg/m2, plus ?2 of the above four factors. Cardiometabolic parameters and presence of metabolic syndrome were assessed at study baseline (BL) and endpoint.
Results: Of the 244 subjects switching to lurasidone, the analysis included subjects (n=220) with a BL and ?1 post-

BL value for any cardiometabolic parameter. At BL, proportions of patients with elevated cardiometabolic parameters were: n=104 (47.3%) with BMI >30kg/m2, n=55 (30.1%) with raised triglycerides, n=84 (35.9%) with raised blood pressure, n=35 (19.0%) with raised FPG, and n=34(18.6%) with reduced HDL cholesterol. At study endpoint, the proportion of patients with elevated cardiometabolic parameters was: n=100 (45.5%) with BMI >30kg/m2, n=45 (24.6%) with raised triglycerides, n =83 (35.5%) with raised blood pressure, n=33 (17.9%) with raised FPG, and n=33 (18.0%) with reduced HDL cholesterol. Metabolic syndrome frequency was n=34 (15.5%) at BL and n= 28 (12.7%) at study endpoint.
Conclusion: In this 6-week, open-label study, an improvement in cardiometabolic parameters and a reduction in metabolic syndrome rate was observed in adult patients switched from other antipsychotic agents to lurasidone. The safety profile found in this study was similar to other lurasidone studies. Effects of long-term switch to lurasidone on metabolic parameters warrants further investigation.

This study was sponsored by Sunovion Pharmaceuticals Inc.

NR10-14
CHARACTERIZATION OF SUBJECTS WITH SCHIZOPHRENIA AND CRIMINAL JUSTICE SYSTEM INVOLVEMENT FROM AN ONGOING CLINICAL TRIAL

Lead Author: H. Lynn Starr, M.D.
Co-Author(s): Cynthia A. Bossie, Janssen Scientific Affairs, LLC, TItusville, NJ
Joe Hulihan, Janssen Scientific Affairs, LLC, Titusville, NJ
Lian Mao, Janssen Research & Development, Titusville, NJ
Larry Alphs, Janssen Scientific Affairs, LLC, Titusville, NJ

SUMMARY:

Introduction: Overrepresentation of people with serious mental illness (SMI) in the US criminal justice system (CJS) is an important public health concern. A recent analysis of the Clinical Antipsychotic Trials of Intervention Effectiveness (CATIE) study identified risk factors for CJS involvement among schizophrenia subjects during that trial as younger age, male sex, adolescent conduct disorder diagnosis, symptoms of akathisia, and drug abuse (Greenberg et al, Community Ment Health J 2011;47:727–736). The current analysis characterizes the population enrolled in an ongoing prospective study of schizophrenia subjects recently involved with the CJS and compares the prevalence of these risk factors and other variables with those from the CATIE study.

Methods: Paliperidone Research in Demonstrating Effectiveness (PRIDE; NCT01157351) is an ongoing, 15-month, randomized, open-label, rater-blinded, parallel-group, multicenter US study comparing paliperidone palmitate with oral antipsychotics in a community sample of subjects with schizophrenia recently released from incarceration. Descriptive statistics were used to summarize baseline demographics and clinical characteristics of subjects enrolled (as of 8/21/12) in PRIDE. These data were compared with published results from the overall CATIE population (Lieberman et al, N Engl J Med 2005;353:1209–1223 and Miller et al, Br J Psychiatry 2008;193:279–288).

Results: Corresponding baseline data were available for several variables in both PRIDE (n=413) and CATIE (n=1460). Data for potential risk factors for CJS involvement identified by Greenberg et al were (PRIDE vs CATIE):

1. Mean (SD) age: 38.0 (10.5) vs 40.6 (11.1) years
2. Male sex: 87.1% vs 74.0%
3. Akathisia: 16.8% (via ESRS-A scale) vs 19.9% (via BARS scale)
4. Substance abuse (alcohol and drug combined): 54.4% (via ASI-LITE) vs 37.2% (via Swartz et al, Psychiatr Serv 2006;57:1110–1116)
5. Adolescent conduct disorder diagnosis was not available from PRIDE

Other variables for which data were available (PRIDE vs CATIE) included:

1. African American: 62.6% vs 35.1%
2. Mean (SD) age at first treatment for behavioral/emotional problems: 20.7 (7.4) vs 24.0 (8.9) years
3. Mean (SD) length of illness: 16.8 (10.1) vs 14.4 (10.7) years
4. Mean (SD) CGI-S score: 3.8 (0.8) vs 4.0 (0.9)
5. Percent unemployed: 86.9% vs 84.9%

Conclusion: Data suggest differences in several baseline characteristics between schizophrenia subjects identified in a study evaluating recently incarcerated schizophrenic persons and those identified through a more general study of persons with schizophrenia. These findings help characterize clinical and phenotypic features associated with CJS involvement among persons with schizophrenia.

Support: Janssen Scientific Affairs, LLC

NR10-15
COGNITIVE RESERVE AS A MODERATOR OF OUTCOME IN CHRONIC SCHIZOPHRENIA.

Lead Author: Pedro Sanchez, M.D.
Co-Author(s): Edorta Elizagarate M.D., Jesus Ezcurra M.D., Natalia Ojeda Ph.D., Javier Peña Ph.D., Olatz Napal M.D., Gemma Garcia M.D., Miguel Gutiérrez M.D.

SUMMARY:

The cognitive reserve (CR) hypothesis suggests that CR may mitigate the adverse effects of brain pathology. However, the specific role of CR has not been exhaustively explored in schizophrenia. Previous literature in schizophrenia has highlighted the predictive value of cognition regarding functional outcome, mainly based on the present level of cognitive per-

formance, and not the premorbid abilities or the level of CR. We aimed to explore if CR acts as a moderator of the effect of cognitive impairment on functional disability among patients with chronic schizophrenia.

Purpose: To analyze the specific contribution of CR to the resulting level of functional outcome in schizophrenia.

Method: One hundred and sixty-five patients with schizophrenia were assessed for clinical symptoms, CR, neuropsychological profile and functional disability. Assessment included clinical interview, psychiatric evaluation (PANNS, Young Mania Scale, MADRS Depression Scale) neurocognition (attention, processing speed, memory, language, executive functions) and functional assessment (DAS-WHO).

Results: Patients with low CR showed more negative symptoms, higher functional disability and worse performance in processing speed compared to those patients with high CR. Regression analyses showed that CR moderated the effect of processing speed on functional disability total score and 3 out of the 4 domains of functional disability (including self-care management, family contact and vocational outcome). The moderating effect of CR on other cognitive domains, in contrast, was not significant. CR moderated the relationship between processing speed and functional disability, but not among the rest of cognitive domains (attention, verbal memory, verbal fluency, working memory and executive functioning) and functional disability.

Importance/Relevance: CR protected against the effect of processing speed impairment on functional outcome in our chronic schizophrenia sample. Our data replicates in schizophrenia results that have been previously reported in patients with other diseases at the central nervous system.

NR10-16
COMPARISON OF FIRST AND SECOND GENERATION ANTIPSYCHOTICS IN PRECLINICAL MODELS OF BEHAVIORAL AND PSYCHOLOGICAL SYMPTOMS OF DEMENTIA (BPSD)

Lead Author: Pawel Mierzejewski
Co-Author(s): Marcin Ko?aczkowski, Przemys?aw Bie?kowski, Anna Weso?owska, Adrian Newman-Tancredi

SUMMARY:

BPSD have been identified as integral parts of dementing disorders and is recognized as an important therapeutic target. Pharmacotherapy is usually required for severe psychosis, aggression and agitation. For this purpose the most commonly used drugs are antipsychotics. There are no studies comparing different antipsychotics in animal models of BPSD. We decided to compare first generation antipsychotics (FGA), chlorpromazine and haloperidol, the second generation antipsychotics (SGA), clozapine, olanzapine, risperidone, as well as the more recent drugs, aripiprazole, lurasidone and asenapine in rat models of psychosis (Conditioned Avoidance Response, CAR; inhibition of MK-801-induced hyperactivity), antidepressant-like activity (Forced Swim test, FST) and cognitive capacities (Passive Avoidance, PA).
All the drugs exhibited antipsychotic-like activity in CAR and MK-801 induced hyperactivity except aripiprazole which poorly inhibited MK-801-induced hyperactivity. In the FST, chlorpromazine and risperidone were inactive, whereas the other drugs reduced immobility time over narrow dose ranges that were generally below those active in the CAR or MK-801 tests. The exception was clozapine, which was the only drug to dose-dependently reduce immobility time over the same dose range (3-30 mg/kg) that was active in the CAR. In the PA test, all the compounds, except aripiprazole, dose-dependently impaired performance, as was observed for the muscarinic receptor antagonist, scopolamine. The active doses in PA were only slightly greater than that observed in the CAR or MK-801 tests, indicating that cognitive function is likely to be impaired at doses similar to those eliciting antipsychotic-like effects.In conclusion, the present study provides a systematic comparison of FGAs and SGAs in tests pertinent to BPSD. Ideally, drugs should improve behavioral and psychological symptoms (psychosis or depression) without exacerbating cognitive impairment. The data suggests that current drugs do not exhibit optimal profiles and provide a basis on which to evaluate future drug candidates proposed for treatment of BPSD.

NR10-17
DOES ETHNICITY AFFECT CLINICAL OUTCOMES AND TOLERABILITY IN PATIENTS WITH SCHIZOPHRENIA WHO SWITCH TO ILOPERIDONE?

Lead Author: Jonathan M. Meyer, M.D.
Co-Author(s): David Henderson, MD, Harvard Medical School, Boston, MA,
Farid Kianifard, PhD, Novartis Pharmaceuticals Corporation, East Hanover, NJ
Xiangyi Meng, PhD, Novartis Pharmaceuticals Corporation, East Hanover, NJ
Adam Winseck, PhD, Novartis Pharmaceuticals Corporation, East Hanover, NJ

SUMMARY:

Background: Minimal information is available regarding potential ethnic differences in treatment response to, and tolerability of, antipsychotic medications. In the iloperidone Flexible-dose Study Assessing Efficacy and Safety and Tolerability of Two Switch Approaches in Schizophrenia Patients (i-FANS), adults with schizophrenia exhibiting suboptimal efficacy and/or safety/tolerability were switched either gradually or immediately from their current antipsychotic treatment of risperidone, olanzapine, or aripiprazole to iloperidone 12–24 mg/d. Clinical outcomes and tolerability of iloperidone treatment in Caucasian and African American patients are discussed.
Methods: Inclusion criteria for this 12-week open-label study included persistent symptoms or tolerability issues despite maintenance therapy with risperidone, olanzapine, or aripiprazole. Subjects were randomized to 1 of 2 switch strategies: a gradual taper of their prior antipsychotic dose over a 2-week cross-taper period or an immediate switch. Primary variable

was the Integrated Clinical Global Impression of Change (I-CGI-C); primary analysis time point was at Week 12.
Results: Of the 500 randomized subjects, 190 (38.0%) were Caucasian (gradual switch, n=84; immediate switch n=106) and 283 (56.6%) were African American (gradual switch, n=139; immediate switch n=144). Among Caucasian patients, least-squares mean (LSM) I-CGI-C score (1 [very much improved] to 7 [very much worse]) at Week 12 was 2.98 for the gradual- and 2.91 for the immediate-switch group; for African American patients, LSM I-CGI-C scores were 2.73 and 2.85, respectively. Most common adverse events (AEs) were dizziness and dry mouth for the Caucasian subgroup (14% and 18%, respectively [gradual-switch] and 27% and 25%, respectively [immediate switch]) and for the African American subgroup (20% and 18% [gradual-switch] and 21% and 18% [immediate switch]). Mean baseline levels of glucose, cholesterol, high-density lipoprotein, and low-density lipoprotein were similar between the two subgroups, with no clinically relevant changes from baseline to Week 12. Although triglyceride levels differed between the subgroups at baseline (mean 152.6 mg/dL [Caucasian] and 113.1 mg/dL [African American]), iloperidone did not meaningfully alter these values (Week 12: 151.3 mg/dL and 124.6 mg/dL, respectively). Throughout the study, changes in metabolic measures were similar between the switch approaches. Mean (SD) weight gain from baseline to Week 12 was 0.9 (3.55) kg and 0.8 (3.97) kg for Caucasian and African American patients, respectively, with weight gain ?7% experienced by 9.1% and 9.0% of patients.
Conclusion: There were no substantive differences in clinical outcomes or tolerability between Caucasian and African American patients diagnosed with schizophrenia in this study who switched to iloperidone from risperidone, olanzapine, or aripiprazole.This study was funded by Novartis Pharmaceuticals Corporation.

NR10-18
EFFECT OF 12 MONTHS OF TREATMENT ON WEIGHT IN SUBJECTS WITH SCHIZOPHRENIA: A COMPARISON OF LURASIDONE, RISPERIDONE, AND QUETIAPINE XR

Lead Author: Jonathan M. Meyer, M.D.
Co-Author(s): Y. Mao, P. Werner, J. Cucchiaro, A. Loebel

SUMMARY:

Introduction: Individuals with schizophrenia have an increased prevalence of obesity (Newcomer et al, 2005). Furthermore, notable differences have been reported among atypical antipsychotics in effects on weight. The current pooled analysis was conducted to evaluate the effect of 12 months of treatment with lurasidone, risperidone, and quetiapine XR on weight and body mass index (BMI) in subjects with schizophrenia.
Methods: A post-hoc, observed case (OC) analysis was performed on pooled data from 6 clinical studies that evaluated the safety of 12 months of treatment with lurasidone (40-120 mg/day).
Results: The analysis sample consisted of 471 subjects who completed 12 months of treatment with lurasidone, and a smaller number of subjects who completed 12 months of treatment with risperidone (n=89) and quetiapine XR (n=33). The mean weight at baseline in the lurasidone, risperidone and QXR groups, respectively, was 72.8, 80.8, and 72.4 kg; and the mean BMI was 25.6, 27.8, and 25.4 kg/m2, with 3.0%, 1.1%, and 0% of subjects meeting standard BMI criteria for being underweight; 50.7%, 31.5%, and 60.6% normal weight; 27.8%, 34.8%, and 24.2% overweight; and 18.5%, 32.6%, and 15.2% obese. On an OC analysis, the mean change in weight (kg) in the lurasidone, risperidone and QXR groups, respectively, was -0.5, +1.7, and +1.5 at 3 months; -0.4, +2.2, and +1.5 at 6 months; +0.1, +3.0, and +1.0 at 9 months -0.4, +2.6, and +1.2 at 12 months. The mean change in BMI (kg/m2) in the lurasidone, risperidone and QXR groups, respectively, was -0.2, +0.6, and +0.5 kg at 3 months; -0.1, +0.8, and +0.5 kg at 6 months; +0.0, +1.1, and +0.4 kg at 9 months; -0.1, +0.9, and +0.4 kg at 12 months. An increase of ?7% in weight occurred in the lurasidone, risperidone and QXR groups, respectively, in 11.3%, 21.6%, and 18.8% of subjects at 6 months, and 15.7%, 25.0%, and 15.2% of subjects at 12 months. A decrease of ?7% in weight occurred in the lurasidone, risperidone and QXR groups, respectively, in 14.4%, 4.5%, and 9.4% of subjects at 6 months, and 18.6%, 6.8%, and 9.1% of subjects at 12 months. Clinically significant weight gain at 12 months was more common in lurasidone treated subjects who were underweight/normal at baseline (20.2%) compared with subjects who were overweight (10.6%) or obese (10.0%). For risperidone, clinically significant weight gain at 12 months was also more common in subjects who were underweight/normal at baseline (37.9%) compared with subjects who were overweight (23.3%) or obese (13.8%). In contrast, for subjects treated with quetiapine XR, clinically significant weight gain at 12 months was more common in subjects who were obese (20.0%) at baseline compared with subjects who were underweight/normal (15.0%) or overweight (12.5%).
Conclusions: The results of this pooled analysis of subjects with schizophrenia who completed 12 months of treatment suggest that lurasidone is associated with a low potential for clinically significant weight gain.

NR10-19
EFFECT OF LURASIDONE ON WEIGHT AND METABOLIC PARAMETERS: A COMPREHENSIVE ANALYSIS OF SHORT- AND LONG-TERM TRIALS IN SCHIZOPHRENIA

Lead Author: Andrei Pikalov, M.D., Ph.D.
Co-Author(s): J. Cucchiaro, P. Werner, M. Ogasa, R. Silva, K. Watabe, A. Loebel

SUMMARY:

Introduction: Patients with schizophrenia are at significantly higher risk for diabetes, dyslipidemia, hypertension, and obesity, which all contribute to increased mortality compared with the general population. Antipsychotic medication may add further cardiometabolic risk, with significant differences reported among atypical antipsychotics in effects on weight, glucose and lipids. The aim of the current pooled analysis of

double-blind short-term and open-label longer-term studies was to evaluate the effect of lurasidone on weight and metabolic parameters.
Methods: Short-term data were pooled from seven double-blind, placebo-controlled, 6-week treatment studies of patients who met DSM-IV criteria for schizophrenia with an acute exacerbation. The short-term safety analysis sample consisted of patients treated with lurasidone (dose range, 20-160 mg, total N=1508); haloperidol 10 mg (N=72); olanzapine 15 mg (N=122); risperidone 4 mg (N=65); quetiapine XR 600 mg (QXR; N=119); and placebo (N=708). Longer-term data (6-22 months) were pooled from open-label studies in patients taking lurasidone 40-120 mg/day.
Results: In the short-term treatment sample, the proportion experiencing ?7% weight gain was 4.8% for combined lurasidone, 4.2% for haloperidol, 34.4% for olanzapine, 6.2% for risperidone, 15.3% for QXR, and 3.3% for placebo. Median endpoint change in lipids were as follows: triglycerides (mg/dL), -4.0 for combined lurasidone, -3.0 for haloperidol, +25.0 for olanzapine, +4.0 for risperidone, +9.5 for QXR, and -6.0 for placebo; total cholesterol (mg/dL), -5.0 for combined lurasidone, -8.0 for haloperidol, +9.0 for olanzapine, +6.5 for risperidone, +6.0 for QXR, and -5.0 for placebo; similar trends were recorded for changes in LDL for lurasidone, QXR and olanzapine. Median glucose (mg/dL) was unchanged (LOCF-endpoint) for combined lurasidone (0.0) and placebo (0.0), and somewhat higher for haloperidol (+2.0), olanzapine (+4.0), risperidone (+3.0), and QXR (+3.0). Minimal-to-no changes were observed at Week 6 LOCF-endpoint in HbA1c. In the longer-term treatment sample, mean change in weight at Month 12 was -0.59 kg for the combined lurasidone treatment group (observed case); and the median changes in metabolic parameters at Month 12 were: -0.08 nmol/L for total cholesterol and -0.06 nmol/L for triglycerides (observed case).
Conclusions: In this comprehensive analysis of short- and longer-term studies, treatment with lurasidone was associated with minimal increases in weight and BMI in short-term trials, and small decreases in weight and BMI in longer-term trials. In the combined lurasidone dosage groups there was a baseline-to-endpoint decrease in mean total and LDL cholesterol, and triglycerides during both short-term and longer-term treatment.

Sponsored by Sunovion Pharmaceuticals, Inc.

NR10-20

EFFECT OF ZIPRASIDONE HCL ON METABOLIC SYNDROME RISK FACTORS IN PATIENTS WITH PSYCHOTIC DISORDERS: A ONE-YEAR, OPEN-LABEL, NON-COMPARATIVE TRIAL.

Lead Author: François Therrien, Pharm.D.
Co-Author(s): Dr Pierre Chue, MBBCh, FRCPsych, LMCC, FRCPC, DABPN, MSc, CCST.
Clinical Professor, Department of Psychiatry, University of Alberta, Edmonton
Zone Clinical Department Section Chief, Community Mental Health
Mental Health Lead, Supportive Living, Edmonton Zone Director, Clinical Trials and Research Program, Community Mental Health, Edmonton
Consultant Psychiatrist, Telemental Health and Primary Care Networks, Alberta

Dr Francine Mandel, Ph.D.
Director, Biostatistics
Pfizer Inc.
New York City

SUMMARY:
Introduction: Metabolic Syndrome (MS) is a highly prevalent condition characterized by the presence of abdominal obesity, hyperglycemia, hypertension, and dyslipidemia. An increasing evidence base indicates that MS is more prevalent in schizophrenia and other patients treated with antipsychotic drugs (29% to 60%) than in the general population. Subjects with MS are at significantly higher risk than those without MS to develop a major coronary heart disease (CHD) event and type 2 diabetes mellitus (DM); the risk increasing with the number of components (risk factors) of MS. Ziprasidone has been shown to possess an overall lower propensity for weight gain, dyslipidemia, and insulin resistance than other second-generation antipsychotics.

Methodology: A one-year, open-label, non-comparative study was conducted to examine the impact of treatment with ziprasidone on the distribution of the number of MS risk factors in a subject population treated with antipsychotic drugs and presenting with glucose intolerance, dyslipidemia, and/or elevated waist circumference.

Results: A total of 276 subjects were screened for the study and 172 subjects were enrolled and treated. One hundred and fourteen subjects (66.3%) met the criteria for inclusion in the primary Per-Protocol (PP) population (subjects who remained in the study for at least 28 weeks) and 159 subjects (92.4%) were included in the intent-to treat (ITT) population (all enrolled subjects, with baseline and at least 1 post-baseline efficacy evaluation). The primary variable was the percentage of subjects in the PP population who achieved a reduction from baseline of at least 1 risk factor for MS at endpoint (end of Week 52 visit or upon premature discontinuation if prior to end of Week 52 Visit). Of the 114 subjects in the PP population, 67 subjects (58.77%) were responders. Results were similar for the ITT population in which 92 of 159 subjects (57.86%) were responders. Of the 114 subjects in the PP population, there was a decrease in the percentage of subjects meeting criteria for MS from 79.82% at baseline to 52.63% at endpoint. Results were similar for the ITT population. There was a decrease from baseline in the mean number of MS risk factors. Within the PP population, a mean reduction of 0.8 risk factor for MS was observed at endpoint. Overall, 86.6% of subjects experienced adverse events (AEs), and the AEs were considered related to ziprasidone treatment in 73.8% of subjects. Twenty subjects (11.6%) experienced serious AEs (treatment related in 4 subjects, 2.3%) and 49 subjects (28.5%) discontinued treatment due to AEs (treatment related in 35 subjects, 20.3%).

Conclusion: The results of this study support a positive effect of ziprasidone treatment in the reduction of metabolic risk factors and confirm ziprasidone's favourable metabolic profile in subjects with schizophrenia or a related psychotic disorder.

NR10-21
EFFICACY OF CARIPRAZINE ON PANSS ITEMS AND MARDER FACTORS: POST HOC ANALYSIS OF A PHASE III, DOUBLE-BLIND, PLACEBO-CONTROLLED TRIAL IN SCHIZOPHRENIA

Lead Author: John M. Kane, M.D.
Co-Author(s): Leslie Citrome
Robert E. Litman
Stephen Zukin
Oksana Mokliatchouk
Krisztián Nagy
István Laszlovszky
Suresh Durgam

SUMMARY:
Background: Schizophrenia is a multidimensional disorder comprising positive, negative, and mood symptoms as well as cognitive deficits. Cariprazine (CAR), an orally active and potent dopamine D3/D2 receptor partial agonist with preferential binding to D3 receptors, is currently in development for the treatment of schizophrenia and bipolar mania. Potent occupancy and modulation of both dopamine D3 and D2 receptors may confer broad efficacy across the range of schizophrenia symptoms. Primary and post hoc analyses of PANSS data from a Phase III study (NCT01104779) evaluated the efficacy and safety of CAR in patients with acute exacerbation of schizophrenia.
Methods: Patients were randomized (1:1:1) to 6 weeks of double-blind treatment with placebo (PBO), CAR 3-6 mg/d, or CAR 6-9 mg/d. The primary and secondary efficacy parameters were change from baseline to Week 6 in Positive and Negative Syndrome Scale (PANSS) total score and Clinical Global Impressions-Severity (CGI-S) score, respectively, analyzed using an MMRM approach adjusting for multiple comparisons. Post hoc analyses evaluated efficacy on PANSS-derived Marder factor groupings (negative symptoms, positive symptoms, disorganized thought, uncontrolled hostility/excitement, anxiety/depression) and PANSS single items. Safety assessments included treatment-emergent AEs (TEAEs), clinical laboratory values, vital signs, ophthalmology assessments, ECG, and EPS scales.
Results: Of the 446 patients that were randomized and received treatment (PBO=147; CAR 3-6 mg/d=151; CAR 6-9 mg/d=148), 60.5% completed the study. The most common reasons for discontinuation were withdrawal of consent (16.4%), insufficient therapeutic response (11.4%), and AEs (9.0%). The least squares mean difference (LSMD) vs PBO in PANSS total score at Week 6 was -6.8 (P=.0029) for CAR 3-6 mg/d and -9.9 (P<.0001) for CAR 6-9 mg/d; significant improvement vs PBO was seen starting at Week 1 for CAR 6-9 mg/d and Week 2 for CAR 3-6 mg/d. The LSMD vs PBO on CGI-S scores was significant at Week 6 for both CAR 3-6 mg/d (-0.3, P=.0115) and CAR 6-9 mg/d (-0.5, P=.0002) with significant advantage versus PBO starting at Weeks 1 and 3, respectively. The LSMD vs PBO was also significant (P<.05) for CAR 6-9 mg/d on all 5 Marder factor groupings; CAR 3-6 mg/d was significant on most factors. On PANSS single items, the LSMD vs PBO was significant (P<.05) on 21 of 30 items for CAR 6-9 mg/d and on 11 of 30 items for CAR 3-6 mg/d. Common TEAEs (?5% and twice the rate of PBO) seen in both CAR groups were akathisia, EPS, and tremor; most were mild to moderate in severity.
Conclusion: CAR was significantly superior to placebo on PANSS total score, across Marder factors, and on many PANSS single items, suggesting broad efficacy in the treatment of schizophrenia. CAR was generally well tolerated, although the incidence of EPS and akathisia was greater for cariprazine than placebo. This study was funded by Forest Laboratories, Inc. and Gedeon Richter Plc.

NR10-22
HOSPITALIZATION RATES IN PATIENTS TREATED PREVIOUSLY WITH ORAL ANTIPSYCHOTICS VS. PROSPECTIVELY TREATED WITH ARIPIPRAZOLE ONCE-MONTHLY: A MIRROR STUDY

Lead Author: John M. Kane, M.D.
Co-Author(s): Na Jin, M.S.; Brian R. Johnson, M.S.; Ross A. Baker, Ph.D, M.B.A; Anna Eramo, M.D.; Robert D. McQuade, Ph.D.; Timothy Peters-Strickland, M.D.

SUMMARY:
Objective: To assess hospitalization rates in a mirror study (6 months pre and post), in patients with schizophrenia treated prospectively with aripiprazole once-monthly 400 mg (ARI once-monthly-400; an extended-release injectable suspension) compared with the same patients previously treated with oral antipsychotics.
Methods: A multicenter, open-label study in stable patients with schizophrenia treated prospectively (6 months) with ARI once-monthly-400 compared with a retrospective treatment (6 months) with oral antipsychotics in a naturalistic community setting. The current interim analysis reports the finding from the first 50 patients to complete the prospective treatment arm. Eligible patients were aged 18–65 years with a current diagnosis of schizophrenia (DSM-IV-TR criteria), a history of illness (>1 year), and 7 months of hospitalization data. The prospective treatment arm had two phases: a conversion phase (Phase A; 4 weeks) where patients were cross-titrated to oral aripiprazole (ARI) monotherapy; and a 24-week, open-label treatment phase (Phase B) where patients received ARI once-monthly-400 (option to decrease to 300 mg), while receiving concomitant ARI for the first 14 days from the start of Phase B. The primary endpoint was to compare psychiatric hospitalization rates (proportion of patients with ?1 inpatient psychiatric hospitalization) between oral antipsychotic treatment (retrospective analysis, last 3 months before oral conversion) and after switching to ARI once-monthly-400 (prospective analysis, last 3 months [i.e. month 4 to 6 after ARI once-monthly-400 initiation]). Safety and tolerability were also assessed.
Results: The current data comprises an interim analysis of the first 50 patients completing Phase B, with a cut-off date of 25

September, 2012. To date, 234 patients have entered Phase B; the primary endpoint was calculated for only the first 50 patients completing Phase B. The rates of hospitalization for patients receiving ARI once-monthly-400 were significantly different for the same patients previously treated with oral antipsychotics (0.0% [n=0/50] vs. 28.0% [n=14/50]; p=0.0001, respectively). All-cause discontinuations during the prospective phase were 31.2% (n=73/234). The most common reasons for discontinuation were: patient withdrew consent, 10.3% (n=24/234); adverse events, 6.8% (n=16/234); and patient withdrawn by investigator, 6% (n=14/234). Adverse events with >5% incidence were insomnia (7.0%), psychosis aggravated (6.5%), and akathisia (6.0%).
Conclusions: Completing 6 months of treatment with ARI once-monthly-400 produced a significant and marked improvement in rates of psychiatric hospitalizations (none) vs. the prior 6 months of treatment (14/50 hospitalizations).

NR10-23
ELEVATED C-REACTIVE PROTEIN ASSOCIATED WITH SCHIZOPHRENIA IN THE GENERAL POPULATION: A PROSPECTIVE STUDY

Lead Author: Marie Kim Wium-Andersen
Co-Author(s): David Dynnes Ørsted, MD
Børge Grønne Nordestgaard, MD, DMSc

SUMMARY:
Objective: Individuals with autoimmune diseases and severe infections have elevated inflammatory markers and increased risk of schizophrenia. We tested the hypothesis that baseline elevated plasma levels of the inflammatory marker C-reactive protein (CRP) associate with increased risk of schizophrenia in the general population.

Method: We measured CRP in 78,810 randomly selected 20-100 year old men and women from two large population-based studies, the Copenhagen General Population Study and the Copenhagen City Heart Study. During up to 20 years of follow-up, we recorded information on hospitalization with schizophrenia (n=37; mainly late- and very-late-onset) and schizophrenia-like psychosis (n=86) from the national Danish Patient Registry.

Results: Age and gender adjusted hazard ratios versus individuals in the 1st quartile of CRP were 1.1 (95% confidence interval 0.2-5.3) for 2nd quartile, 1.4 (0.3-6.0) for 3rd quartile, and 6.7 (2.0-22) for 4th quartile individuals. The corresponding hazard ratio for 4th quartile individuals after multifactorial adjustment was 4.0 (1.2-13). Also, the cumulative incidence of schizophrenia was increased in individuals with a CRP in the 4th versus the 1st to 3rd quartile (log-rank: p = 8*10-7). Furthermore, individuals with versus without schizophrenia had 68% increased plasma levels of CRP (p=6*10-5). The above mentioned results were similar but slightly attenuated for schizophrenia and schizophrenia-like psychosis combined.

Conclusion: Baseline elevated plasma CRP is associated with a 4-7-fold increased risk of late- and very-late-onset schizophrenia in the general population. These are novel findings.

NR10-24
EVALUATING HEALTH INSURANCE COVERAGE, MEDICAL RESOURCE USE, AND RECIDIVISM IN PERSONS WITH SCHIZOPHRENIA

Lead Author: Carmela Benson, M.S.
Co-Author(s): Lian Mao, Janssen Research & Development, LLC, Titusville, NJ
John Fastenau, Janssen Scientific Affairs, LLC, Titusville, NJ
Larry Alphs, Janssen Research & Development, LLC, Titusville, NJ
Lynn Starr, Janssen Research & Development, LLC, Titusville, NJ

SUMMARY:
Background: Persons with schizophrenia have higher risks of arrest and incarceration and are less likely to have health insurance coverage (HIC) compared with the general population. Research has found that having health insurance coverage after release from jail may be associated with lower rates of rearrest and drug use. We describe 2 cohorts of subjects based on their HIC enrolled in PRIDE (Paliperidone Research in Demonstrating Effectiveness), an ongoing, pragmatic, 15-month, randomized, active-controlled, open-label study of paliperidone palmitate, compared with oral antipsychotic treatment in adults with schizophrenia who recently were released from incarceration. We hypothesized patients without HIC would have lower resource use and would be more likely to experience recidivism compared with patients with HIC.

Methods: Subjects randomized as of 15March2012 were included in this interim analysis. Subjects with commercial or public health insurance formed the “with coverage” cohort (WC) and those without HIC formed the “no coverage” cohort (NC). At baseline, resource utilization in the past 12 months before the last incarceration was assessed using the resource use questionnaire (RUQ). RUQ collects sociodemographic information, outpatient/inpatient services, emergency room (ER) visits, emergency medical services (EMS), and contacts with the criminal justice system. Demographic and clinical characteristics, reasons for arrest/incarceration, and resource utilization at baseline were compared between the 2 cohorts. The odds of hospitalization, visits to the ER, use of EMS, and recidivism (defined as 3 or more arrests/incarcerations) were estimated for the 2 cohorts and were compared using the Mantel-Haenszel test. No adjustment was made for multiplicity.

Results: Of 340 subjects analyzed, 39.1% (n=133) had no insurance coverage. The 2 cohorts were comparable in demographics and clinical characteristics. Reasons for and frequency of arrests differed between the 2 cohorts, with probation/parole violation highest in the NC cohort (24.8% vs 13.7%, p=0.009). Mean visits to any type of outpatient health professional such as a psychiatrist (NC=4.7, WC=5.6) or mental health facility such as a community mental health center (CMHC) (NC=6.6, WC=5.4) were low in both cohorts. During the past 12 months, the odds ratios (p-values)

for hospitalization, visits to ER, EMS, and recidivism in the NC versus the WC cohort were 0.60 (p=0.071), 0.73 (p=0.191), 0.74 (p=0.267), and 1.47 (p=0.287), respectively.

Conclusions: This interim analysis showed lower healthcare use but higher recidivism among schizophrenia patients without versus with health insurance coverage. Further studies and analysis are warranted to understand the impact of health insurance coverage on patient outcomes.

Funded by Janssen Scientific Affairs, LLC.

NR10-25
EVALUATION OF QUALITY OF LIFE ASSESSMENTS AMONG PATIENTS WITH SCHIZOPHRENIA SWITCHED TO LURASIDONE FROM OTHER ANTIPSYCHOTICS

Lead Author: A. George Awad, M.D., Ph.D.
Co-Author(s): M. Hassan; A. Loebel; J. Hsu; A. Pikalov; K. Rajagopalan

SUMMARY:

Objective: Patients with schizophrenia frequently switch between antipsychotics, underscoring the need to ensure that important outcomes of treatment such as quality of life (QoL) are achieved and maintained following the switch. This analysis evaluated changes in overall quality of life among patients with schizophrenia switched from current antipsychotic treatment to lurasidone.
Methods: Stable, but symptomatic outpatients with schizophrenia were switched from their current antipsychotic lurasidone, in a recently completed, 6-week, open-label trial, conducted in the US. The PETiT is a validated 30 item instrument measuring overall quality of life outcomes among patients with schizophrenia. Each item of PETiT is assigned a rating of 2, 1 or 0 where 2 denotes positive change and 0 denotes negative change. Higher scores on PETiT denote better QoL. PETiT scale was administered at baseline and study endpoint in this trial. Change from baseline to study endpoint in PETiT total score (overall QoL) and subscale scores on medication attitude, social functioning, activity, patient perception of cognition and dysphoria were compared using ANCOVA with BL score and pooled site as covariates.
Results: Of the 244 patients switched to lurasidone from other antipsychotics, patients with available data on PETiT (n=213) were included in the analysis. Mean PETiT total scores at baseline was 35.3 and at study endpoint was 38.5. Mean change from baseline in the PETiT total score by 3.2, was significant in the all patients group (p<0.0001). Changes from baseline in the mean scores of each PETiT domain scores were (mean (SD), p-value): medication attitude (0.69 (2.56), 0.0002), social functioning (0.05 (1.40), 0.9594), activity (0.74(2.69), 0.0002), patient perception of cognition (0.92 (2.50), <.0001) and dysphoria (0.79 (2.27), <.0001).
Conclusions: The findings from this study indicate that patients switching from other antipsychotics to lurasidone experienced improvement in quality of life assessments within 6 weeks of treatment. Statistically significant improvements were observed in the overall QoL as well as subscales for medication attitude, activity, patient perception of cognition and dysphoria as assessed by the PETiT scale. Further investigation regarding the effects of longer-term lurasidone treatment on quality of life and patient reported perceptions of switch to lurasidone is warranted.

This study was sponsored by Sunovion Pharmaceuticals Inc.

NR10-26
FOLLOW-UP AFTER HOSPITALIZATION FOR SCHIZOPHRENIA FOR PATIENTS WITH MEDICAID OR COMMERCIAL INSURANCE

Lead Author: Dilesh Doshi, Pharm.D.
Co-Author(s): Michael Durkin, Zoe Clancy, Dilesh Doshi, Steven C. Marcus

SUMMARY:

Background: The importance of timely outpatient mental health care following hospital discharge is reflected by issuance by NCQA of a proposed Follow-up After Hospitalization for Schizophrenia HEDIS quality measure. We examined patterns and predictors of follow-up care among publicly and privately insured inpatients with schizophrenia.

Methods: A retrospective longitudinal cohort analysis was conducted on claims from publicly insured (Medicaid) and commercially insured (private) adults (18-65 years old) following hospital discharge for schizophrenia (ICD-9: 295). Patient characteristics, prior treatment history and follow-up care were described for both cohorts, limited to those with continuous insurance enrollment from 90 days before admission to 30 days after discharge. Follow-up care was defined in this study to approximate the HEDIS measure specifications. Results are presented from a logistic regression on follow-up care within 30 days of discharge with covariates including payer type, age, sex, schizophrenia subtype, length of inpatient stay, and patterns of mental health treatment during the 90 days prior to the index hospital admission.

Results: Relative to the private cohort (n=3,284), the Medicaid cohort (n=18,415) had a higher success rate on 7 day follow-up (53.4% Medicaid vs. 47.3% private, p<0.001). Performance rates on 30 day follow-up appeared similar (66.3% Medicaid vs. 66.9% private, p=0.54). Medicaid patients were more likely male (52.5% vs. 47.8% p<0.001) than private patients and had shorter index admission length of stay (mean LOS 8.7 days vs. 9.7 days, p<0.001). In the logistic model, 30 day follow-up performance was related to use of outpatient mental health services during the 90 day period prior to admission (OR=7.00, 95%CI=6.03-8.12). As compared with the absence of antipsychotic claims during the 90 day pre-admission period, claims for oral (OR=1.34, 95%CI=1.24-1.46) and long-acting (OR=1.60, 95%CI=1.35-1.91) antipsychotic medications were associated with 30 day success. Also associated with 30 day follow-up care were female sex (OR=1.15, 95%CI=1.08-1.22), pre-admission claims with a co-occurring mood disorder (OR=1.12, 95%CI=1.05-1.20), and absence of substance use disorder (OR=0.81, 95%CI=0.76-0.87). Compared to short inpatient

stays (LOS 1-8 days), intermediate (9 to 12 days) (OR=1.11, 95%CI=1.03-1.20) and longer (13-30 days) (OR=1.08, 95%CI=1.00-1.16) stays had greater likelihood of 30 day success. Payer type (Medicaid or private) was not significantly related to 30 day follow-up care.

Conclusions: Despite significant differences between private and public populations, performance rates on a quality metric for 30 day follow-up care after hospitalization for schizophrenia were similarly poor. These results suggest that public and private payers may require different strategies to improve the quality of follow-up care for patients with schizophrenia.

Support: Janssen Scientific Affairs, LLC

NR10-27
EFFICACY OF LURASIDONE IN THE TREATMENT OF AGITATION ASSOCIATED WITH ACUTE SCHIZOPHRENIA

Lead Author: Michael Allen, M.D.
Co-Author(s): P. Werner, F. Jin, J. Cucchiaro, A. Loebel

SUMMARY:

Introduction: Agitation is a common presentation among patients hospitalized for an acute exacerbation of schizophrenia. Rapid and effective control of agitation is an important early treatment goal. The aim of this post-hoc analysis was to evaluate the efficacy of lurasidone in reducing agitation in patients who were hospitalized for an acute exacerbation of schizophrenia.
Methods: The analysis was performed on pooled data from 5 six-week, double-blind, placebo-controlled trials, in subjects with acute exacerbation of schizophrenia who were randomized to fixed, once-daily, 40-160 mg oral doses of lurasidone. Efficacy assessments included the PANSS total score, the Excited Component (PANSS-EC) subscore, and the CGI-S. PANSS total, PANSS-EC, and CGI-S scores were evaluated post-randomization on Day 3/4 and Day 7 in the subgroup of patients (n=773) experiencing clinically relevant levels of agitation, which was defined as a PANSS-EC score ?14 at baseline (Citrome, J Clin Psych 2007;68:1876-1885).
Results: In the agitation subgroup, the mean (±SD) PANSS-EC score at baseline was similar for lurasidone (16.7±2.5) and placebo (16.8±2.7). Treatment with lurasidone, compared with placebo, was associated with significantly greater improvement in LS mean PANSS-EC scores at Days 3/4 (-2.0 vs. -1.3; $p<0.001$; effect size, 0.25) and Day 7 (-2.6 vs. -1.8; $p<0.001$; effect size, 0.24). Significantly greater improvement was also observed in LS mean CGI-S scores for lurasidone compared with placebo on Days 3/4 (-0.15 vs. -0.06; $p<0.05$) and Day 7 (-0.36 vs. -0.20; $p<0.001$).
Conclusions: In this pooled post-hoc analysis, treatment with lurasidone significantly reduced agitation (assessed using the PANSS-EC) by Day 3/4, and this was sustained at Day 7, in patients hospitalized with an acute exacerbation of schizophrenia. Overall improvement (assessed using the CGI-S) was also observed at these timepoints.

This study was sponsored by Sunovion Pharmaceuticals Inc.

NR10-28
INCREASED KYNURENINE LEVELS IN SCHIZOPHRENIA PATIENTS WITH HIGH ANTI-GLIADIN IMMUNOGLOBULIN G ANTIBODIES

Lead Author: Olaoluwa Okusaga, M.D.
Co-Author(s): Dietmar Fuchs, Ina Giegling, Annette M. Hartmann, Bettina Konte, Marion Friedl, Dan Rujescu, Teodor T. Postolache**

** Teodor T. Postolache and Dan Rujescu share senior authorship and equally contributed to this work.*

SUMMARY:

Background: Gliadine sensitivity in schizophrenia has been reported in several studies but its connection to psychotic symptoms is poorly understood. As immune mechanisms have been implicated in the pathophysiology of schizophrenia, and as certain immune mediators increase kynurenine and reduce tryptophan levels, we now compared plasma levels of these molecules in patients with, versus those without, elevated anti-gliadin IgG.
Methods: We measured anti-gliadin IgG, kynurenine and tryptophan in 950 patients with schizophrenia [age: 38.0±11.6, 600 (63%) males] and 1000 healthy controls [age: 53.5 ± 15.8, 490 (49%) males]. Patients with antibody level at the 90th percentile or higher of control participants were classified as having elevated anti-gliadin IgG. T-test and ANCOVAs were used to compare tryptophan, kynurenine and kynurenine-tryptophan ratio between patients with, and those without elevated anti-gliadin IgG. The correlation between anti-gliadin IgG and tryptophan, kynurenine and the ratio was also evaluated in schizophrenia patients.
Results: Kynurenine and kynurenine-tryptophan ratio were elevated in patients with elevated anti-gliadin IgG (3.13 ± 1.49 vs. 2.58 ± 1.83, $p<0.0001$ and 0.053 ± 0.034 vs. 0.045 ± .0301, $p=0.002$ respectively), findings robust to adjustment for potential confounders (age, gender, level of education, BMI and illness severity). Anti-gliadin IgG correlated with kynurenine and kynurenine-tryptophan ratio in unadjusted ($p<0.0001$) and adjusted analysis ($p = 0.002$). Tryptophan levels did not differ between the 2 patient groups and did not correlate with anti-gliadin IgG.
Conclusions: Elevated kynurenine in schizophrenia provides additional insights connecting gliadine sensitivity with psychotic illness and hints towards potential individualized treatment targets.

NR10-29
INSIGHT, TREATMENT OUTCOMES AND RECOVERY IN FIRST-EPISODE SCHIZOPHRENIA

Lead Author: Ofer Agid, M.D.
Co-Author(s): Cynthia O. Siu,
Robert B. Zipursky,
Gary Remington

SUMMARY:

OBJECTIVE: The objective of this study was to investigate cross-sectional relationships between insight and cognitive

performance, social functioning, and subjective quality of life rating in patients with first-episode schizophrenia who had attained symptom remission.
METHODS: A total of 65 patients from two first-episode cohorts between 18-35 years in age, capable of providing informed consent, had DSM-IV diagnosis of schizophrenia and treatment for <1 year. Patients' clinical status was assessed using PANSS (Cohort 1) or BPRS (Cohort 2). Insight was measured using the Schedule for Assessment of Insight (SAI), while cognitive functioning was evaluated using BACS. Functional performance was evaluated by SOFAS and the Social Functioning Scale (SFS). Subjective patient-reported outcomes were assessed using the Satisfaction with Life Scale (SWLS) and World Health Organization Quality of Life scale (WHOQOL-BREF, Cohort 1 only). Structural Equation Models were applied to investigate the relationships among these factors.
RESULTS: The study sample consisted of two patient cohorts with first-episode schizophrenia (N=34 in Cohort 1, N=31 in Cohort 2). All but 3 patients met criteria for symptom remission (Andreasen et al., 2005).. Patients in both cohorts demonstrated good levels of insight (SAI total score=11.4, SD=2.6). The mean BACS composite z-score was -2.05 (SD=1.27).. The overall median SOFAS score was 50 (IQR 45 to 60), indicating moderate to serious impairment in social and occupational functioning in a majority of patients. Patients in both cohorts also experienced marked functional impairment, being significantly lower on social engagement, interpersonal communication, recreation, pro-social, and employment SFS domains, compared to normal controls ($p<0.05$). In the 2 patient cohorts, there was a significant correlation between the overall SAI insight score and G12 of PANSS ($p<0.05$). Higher level of insight was associated with increased cognitive performance, verbal memory and processing speed (all $p<0.05$). Level of insight into illness was inversely related to both Interpersonal Communication (an objective SFS domain, $p<0.05$) and lower Social Relationship (a subjective WHO-QOL-BREF domain, $p< 0.05$). Interpersonal Communication and Social Relationship were positively correlated ($p<0.05$). The inverse relationship between insight into illness and subjective QOL rating in Social Relationship can be explained, in part, by their significant associations with Interpersonal Communication Social Functioning factor ($p<0.05$ in path analysis). Both insight and cognitive performance were not directly correlated with life satisfaction SWLS score.

DISCUSSION: Our findings suggest that despite good insight, symptom remission and lack of depression, there is significant impairment in neurocognitive and social functioning in first-episode schizophrenia. Higher levels of insight were associated with better cognitive performance.

NR10-30
INVOLVEMENT, SATISFACTION AND TREATMENT ADHERENCE IN PEOPLE WITH SEVERE MENTAL ILLNESS

Lead Author: Malene Krogsgaard Bording,
Co-Author(s): Helle Østermark Sørensen, Research nurse, Unit for Psychiatric Research, Aalborg Psychiatric Hospital, Aalborg University Hospital, Denmark. Bernd Puschner, Dr. phil. Dipl. Psych. Department of Psychiatry and Psychotherapy II, Ulm University, Germany.

SUMMARY:
Introduction: Research on clinical decision making in health care has primarily focused on well-defined somatic illnesses. There is evidence in physical conditions that the quality of patient-clinician encounters is related to many positive health outcomes including increased satisfaction with care and better adherence to treatment regimes. However, little is known about the clinical decision making and outcome of people with mental illness and differences by kind of illness.

Objectives of the study: To investigate the association between aspects of clinical decision making (involvement, satisfaction) on outcome (adherence) from patient and staff perspective with a special focus on diagnostic group as a moderator variable.

Methods: 588 participants in Ulm (DE), London (UK), Naples (IT), Debrecen (HU), Zurich (CH), and Aalborg (DK) gave informed consent to take part in the European multicenter study "CEDAR" which is a prospective observational study with bi-monthly assessments completed by both patients and staff during a one-year period. Aspects of clinical decision making (CDM) and adherence were measured by standardized instruments ("CDM Involvement and Satisfaction", "CDM in Routine Care").

Results: Patients rated involvement in CDM (active, shared, passive) more passively than professionals. These results did not differ by diagnosis (psychotic vs. affective disorders). Furthermore, adherence to treatment did not differ by diagnosis. Likewise, during the 1 year observation period, patient and staff ratings of satisfaction with CDM were similar.

Conclusions: Core aspects of clinical decision making (involvement and satisfaction) and a key outcome variable (adherence to treatment) do not differ for the most prevalent diagnostic groups among people with severe mental illness.

NR10-31
COMMERCIALLY INSURED SCHIZOPHRENIA PATIENTS USE FEWER INPATIENT RESOURCES AND INCUR LOWER COSTS AFTER INITIATING LONG-ACTING INJECTABLE ANTIPSYCHOTICS

Lead Author: Siddhesh Kamat, M.B.A., M.S.
Co-Author(s): Donna Zubek BSN, MBA1, Steve Offord PhD1, Craig Karson MD2, John Docherty MD1, Jay Lin PhD, MBA3, Benjamin Gutierrez PhD1
1Otsuka America Pharmaceutical, Inc.
2CNK Consultants
3Novosys Health

SUMMARY:
Objective: To evaluate healthcare resource usage and costs

after initiating long-acting injectable (LAI) antipsychotics among commercially insured patients suffering from schizophrenia.
Methods: Schizophrenia patients (? 13 years of age) who had at least 1 inpatient or 2 outpatient visits on separate dates with a primary or secondary diagnosis of ICD-9-CM code 295.X before initiating treatment with LAI antipsychotics (index event) were identified from the Thomson Reuters MarketScan® Research Medicaid database between 1/1/2006 and 12/31/2010. Patients were required to have continuous medical and prescription coverage before (12-month baseline period) and after (12-month follow-up period) the index event. The usage of inpatient healthcare resources and associated payments were determined for the baseline and follow-up periods and compared with student's t-tests.
Results: Of 611 schizophrenia patients who initiated LAI antipsychotics mean age was 40.4 years and 55% were male. The LAIs initiated included risperidone (47.1%), haloperidol (29.1%), fluphenazine (18.7%), and paliperidone (5.1%). Approximately half of patients prescribed LAI antipsychotics also took anticonvulsants (53.2%) and antidepressants (49.4%) in the baseline period. After initiating treatment with LAI antipsychotics, mean number of hospitalizations were reduced (all cause: 0.75±1.34 vs. 1.57±1.59, $p<0.0001$; schizophrenia-related: 0.49±0.95 vs. 1.00±1.18, $p<0.0001$), as well as mean annual total hospitalization days (all cause: 7.76±18.25 vs. 16.54±21.95 days, $p<0.0001$; schizophrenia-related: 5.61±14.87 vs. 11.81±18.74 days, $p<0.0001$). All cause and schizophrenia-related inpatient resource usage was approximately 50% less after initiating LAI antipsychotics in comparison to before. Correspondingly, hospital payments were less after initiating treatment with LAI antipsychotics vs. prior to treatment initiation (all cause: $9,339±$28,957 vs. $15,641±$20,638, $p<0.0001$; schizophrenia-related: $5,039±$13,063 vs. $10,606±$16,646, $p<0.0001$).
Conclusion: The use of LAI antipsychotics significantly reduces inpatient resource utilization and costs for all cause hospitalizations and schizophrenia-related relapses. These recent findings are consistent with results from previously published research studies that document the impact of LAI antipsychotics on reducing inpatient resource usage and costs after treatment initiation.

Disclosure: The current research was supported by Otsuka America Pharmaceutical, Inc. and H. Lundbeck A/S.

NR10-32
ONSET OF EFFICACY OF LONG-ACTING INJECTABLE PALIPERIDONE PALMITATE FOR POSITIVE SYMPTOMS AND HOSTILITY/EXCITEMENT IN SUBJECTS WITH SCHIZOPHRENIA

Lead Author: Cynthia A Bossie, Ph.D.
Co-Author(s): CA Bossie, Janssen Scientific Affairs, LLC, Titusville, NJ
D-J Fu, Janssen Scientific Affairs, LLC, Titusville, NJ
HL Starr, Janssen Scientific Affairs, LLC, Titusville, NJ
Y-W Ma, Janssen Research & Development, Titusville, NJ
L Alphs, Janssen Scientific Affairs, LLC, TItusville, NJ

SUMMARY:
Background: Symptoms of schizophrenia that present acutely and demand immediate intervention with rapid improvement are those associated with uncontrolled hostility/excitement and positive symptoms. Paliperidone palmitate (PP) is a once-monthly injectable antipsychotic for schizophrenia treatment that does not require concomitant treatment with an oral antipsychotic during initiation. A report showed that symptom improvement (PANSS total score) was significantly greater with PP than with placebo by day 8 in symptomatic subjects (Bossie et al, BMC Psychiatry 2011;11:79). This follow-up analysis examined symptom response and onset in the key symptom domains of uncontrolled hostility/excitement and positive symptoms.
Methods: A post hoc analysis of a 13-week, randomized, double-blind study of fixed doses of PP vs placebo in 636 subjects with schizophrenia (Pandina et al, J Clin Psychopharmacol 2010;30:235-244 [NCT00590577]) examined effects on PANSS positive and uncontrolled hostility/excitement factors. PP was administered at 234mg on day 1, followed by 39, 156, or 234mg on days 8, 36, and 64, with no oral antipsychotic supplementation. PANSS scores were collected at baseline and on days 4, 8, 22, 36, 64, and 92/endpoint. Data for PP arms were pooled for day 4 and 8 measures (all received 234mg on day 1). "Symptom reduction" was assessed as within-group mean change from baseline using paired t-tests. "Treatment vs placebo effect" was assessed as between-group mean change using ANCOVA models and LOCF methodology without adjusting for multiplicity.
Results: Uncontrolled hostility/excitement PANSS factor: Symptom reduction (within-group change) was significant with PP by day 4. Treatment vs placebo effect showed significant improvement by day 4; this persisted through endpoint in the 156mg and 234mg PP arms, but not in the 39mg arm. No notable or consistent placebo response was observed. For all specific symptoms (uncooperativeness, poor impulse control, excitement, and hostility), significant improvement vs placebo was observed at 2 or more PP doses.
Positive PANSS factor: Symptom reduction (within-group change) was significant with PP by day 4. Treatment vs placebo effect improved significantly by day 36 through endpoint for 156mg PP and by day 22 through endpoint for 234mg PP; no significant improvement was observed at any time point for 39mg PP. Placebo response was notable at all time points. Among the 8 individual items, 4 (delusions, hallucinatory behavior, suspiciousness, and unusual thought content) showed significant improvement vs placebo in 2 or more PP arms.
A dose-dependent trend was observed for PANSS factors and for most individual items.
Conclusion: Positive symptoms and uncontrolled hostility/excitement domains improved by day 4 with PP (no oral supplementation) vs placebo. Onset of specific symptom reduction vs placebo varied by symptom and dose. A differential placebo response was noted.
Support: Janssen Scientific Affairs, LLC

NR10-33
ONSET OF EFFICACY ON SCHIZOPHRENIA

SYMPTOM DOMAINS WITH LONG-ACTING INJECTABLE PALIPERIDONE PALMITATE VS ORAL RISPERIDONE

Lead Author: Larry Alphs, M.D., Ph.D.
Co-Author(s): Dong-Jing Fu, Janssen Scientific Affairs, LLC, Titusville, NJ
Jennifer Kern Sliwa, Janssen Scientific Affairs, LLC, Titusville, NJ
Yi-Wen Ma, Janssen Research & Development, Titusville, NJ
H. Lynn Starr, Janssen Scientific Affairs, LLC, Titusville, NJ
Cynthia A. Bossie, Janssen Scientific Affairs, LLC, Titusville, NJ

SUMMARY:
Introduction: Paliperidone palmitate (PP) is a long-acting injectable antipsychotic initiated by two injections (day 1 and day 8 [±4 days] without oral antipsychotic supplementation), followed by once-monthly injections. As reported by Gopal et al (Innov Clin Neurosci. 2011;8:26–33), mean PANSS total scores improved significantly and to a similar extent with PP and oral risperidone by day 4 (both P<0.001) through day 22 in a double-blind study of PP vs risperidone long-acting injection (RLAI; with oral supplementation; NCT00589914). Because schizophrenia presents with diverse symptoms, evaluating the effects of antipsychotics on different symptom groupings or domains is important for making effective treatment decisions. This secondary analysis of the same database evaluated the onset of efficacy by symptom domain as determined by PANSS factor scores.

Methods: Subjects received (a) PP (n=453; 234 mg day 1 and 156 mg day 8, followed by once-monthly flexible dosing) and RLAI-matched placebo injections or (b) RLAI (n=460; 25 mg, days 8 and 22, followed by biweekly flexible dosing) and PP-matched placebo injections. RLAI subjects received oral risperidone on days 1–28, whereas PP subjects received oral placebo. Because of RLAI's release profile and injection regimen, effects through day 28 in the RLAI arm were effectively due to oral risperidone only. Assessments included PANSS factor scores at days 4, 15, and 22. Paired t-tests evaluated within-group differences, and ANCOVA evaluated between-group differences. LOCF methodology was used without correction for multiple comparisons.

Results: All PANSS factor scores (positive, negative, and disorganized thoughts; uncontrolled hostility/excitement; and anxiety/depression) improved significantly with PP and oral risperidone by day 4 through day 22 (P<0.001 for all within-group changes). Mean (SD) PANSS factor score changes from baseline to day 22 for PP and oral risperidone were positive (–3.5 [4.0] and –3.2 [3.9]), negative (–2.3 [3.2] and –2.3 [3.4]), and disorganized thoughts (–2.0 [3.1] and –1.8 [2.7]); uncontrolled hostility/excitement (–1.4 [2.4] and –1.3 [2.4]); and anxiety/depression (–2.0 [2.3] and –1.7 [2.3]). The only between-group differences during this period were observed at day 4 in PANSS positive (LS mean [SE] change for PP vs oral risperidone: –0.8 [0.1] vs –0.6 [0.1]; P=0.02) and disorganized thoughts (–0.5 [0.1] vs –0.3 [0.1]; P=0.04) factor scores. Treatment-emergent adverse events during early time points were described by Gopal et al.

Conclusion: The timing and pattern of efficacy responses following treatment with injectable PP appeared similar to those observed with oral risperidone during the first month of treatment in symptomatic subjects with schizophrenia. All mean PANSS factor scores improved significantly in both groups by first assessment at day 4; some between-group differences favored PP without oral supplementation.

Support: Janssen Scientific Affairs, LLC

NR10-34
ONSET PATTERN AND PROGNOSIS IN SEVERE POSITIVE SYMPTOMS IN PSYCHOSIS:10-YEAR FOLLOW-UP DUP STUDY

Lead Author: Nobuhisa Kanahara, M.D., Ph.D.
Co-Author(s): Taisuke Yoshida, Yasunori Oda, Hiroshi Yamanaka, Toshihiro Moriyama, Hideaki Hayashi, Takayuki Shibuya, Yasunori Nagaushi, Kiyoshi Sawa, Yoshimoto Sekine, Eiji Shimizu, Makoto Asano, Masaomi Iyo

SUMMARY:
Background: Although duration of untreated psychosis (DUP) has been demonstrated to have an inverse relation with short-term prognosis, exploration of the effect of DUP on long-term prognosis is quite difficult because of other clinical or treatment factors that may affect the disease course. Understanding the relationship between DUP and consequent disease course is important for predicting disease prognosis. Methods: A total of 664 patients with untreated psychosis were surveyed for this study. At the first examination, we divided them into the severe positive symptoms cases (SC) or the less severe cases (NSC) and compared the prognosis among the two groups after 10-year follow-up. Eventually, 113 patients in the SC group and 43 patients in the NSC group were follow-up completers. Results: Whereas DUP (about 24 months) was not different between the two groups, patients with nonacute onset in both groups had significantly longer DUP than those in patients with acute onset (30 months and 0.5 months respectively). In all clinical measures, there was no difference in prognosis between the both groups nor among the four groups classified by mode of onset and initial severity of positive symptoms. However, the degree of improvement of global assessment of functioning (GAF) was significantly smaller in the NSC-nonacute group (GAF:30 in baseline ? 48 in 10-year follow-up) than in the SC-acute and SC-nonacute groups (GAF: 16?58 and 16?51, respectively). Conclusions: These results suggest that DUP does not necessarily affect the initial severity of positive symptoms.

Moreover, long-term clinical measurements are determined clearly by two factors such as the severity of positive symptoms and mode of onset, which are both indicators prior to treatment intervention. It is possible that patients with low impetus of positive symptoms onset experience profound pathologic processes within DUP, leading to poor long-term prognosis.

NR10-35
PALIPERIDONE DEPOT IN THE ACUTE INPATIENT SETTING: A SHORT NATURALISTIC STUDY OF COSTS, BENEFITS AND ACCEPTABILITY

Lead Author: Luiz Dratcu, M.D., Ph.D.
Co-Author(s): Dr T. Walker-Tilley, Dr P. Ramanuj, Dr J. Lopez-Morinigo, Dr E. Huish

SUMMARY:

INTRODUCTION

Inpatient care is the most expensive component of mental healthcare. Antipsychotic long-acting injections reduce the risk of non-compliance and relapse, by far the most common cause of readmission of psychotic patients. Paliperidone long-acting intramuscular injection (PLAIMI) seems to combine the tolerability of an atypical agent with practical advantages over previous depots in speed of onset, dose range and mode of administration. This is a small naturalistic study examining the clinical and cost effectiveness of starting PLAIMI in the acute setting.

METHODS

We prospectively examined outcomes in 11 patients (age 38.5 years ± 11.4, mean ± s.d.) with a psychotic illness (schizophrenia n=10, schizoaffective disorder n=1) admitted to our all-male inpatient unit who were started on PLAIMI as the treatment of choice. For each patient we collected data on demographics, diagnosis, comorbidities and previous medication. Each patient was assessed using three rating scales. The Health of the Nation Outcome Scale (HoNOS) covers behavior, risk, symptoms and social function, the Brief Psychiatric Rating Scale (BPRS) measures psychiatric symptoms and the Global Assessment of Function (GAF) measures psychosocial function. Ratings were made on admission and 4 weeks or discharge, whichever occurred sooner.

RESULTS

A decrease in the BPRS score from 52.6 ± 14.8 to 32.3 ± 9.4 ($p = 0.006$) was reached within 4 weeks. Significant improvements also occurred in HoNOS score from 15.6 ± 3.9 to 7.8 ± 3.6 ($p < 0.001$) and in GAF score from 29.6 ± 11.0 to 55.0 ± 14.0 ($p < 0.001$). Improvements on all three rating scales were highly correlated (Pearson's $r=0.9$, $p < 0.001$), indicating that clinical improvement was accompanied by reduced risk and improved social functioning. 10 out of the 11 patients responded clinically to PLAIMI. The main therapeutic responses as perceived by the multidisciplinary team included amelioration of both positive and negative symptoms of schizophrenia. Clinical changes in responders were typically described as 'less paranoid, less thought disordered, better engagement'. 5 patients were discharged before 4 weeks. 3 patients had improved but remained clinically unwell and remained in hospital for a few additional weeks for further response. 2 patients were fit for discharge at 4 weeks but remained due to accommodation issues.

DISCUSSION

PLAIMI proved effective in acutely unwell psychotic patients admitted to our unit. Patients responded rapidly without untoward side-effects. The cost of a 100mg monthly dose of PLAIMI is £314 ($505) whereas the average cost of a single day of acute inpatient psychiatric care in our region is £350 ($563). By reducing duration of stay and readmission rates, prescribing PLAIMI for this patient group is likely to prove cost effective, a claim that can only be confirmed by further studies.

NR10-36
PATIENT AND PRESCRIBER PERSPECTIVES ON LONG-ACTING ANTIPSYCHOTICS FOR SCHIZOPHRENIA: ANALYSIS OF IN-OFFICE DISCUSSION

Lead Author: Steven G. Potkin, M.D.
Co-Author(s): Rimal Bera, MD, University of California, Irvine, School of Medicine
Donna Zubek, BSN, MBA, Otsuka America Pharmaceutical, Inc.
Gina Lau, PharmD, Otsuka America Pharmaceutical, Inc.

SUMMARY:

Introduction: Long-acting injectable antipsychotics (LAIs) have been associated with reduced relapse rates, hospitalization, and costs of care but are underused--often reserved for severely affected nonadherent patients with schizophrenia. Patient and prescriber perspectives may present obstacles and opportunities to LAI use. This study examined prescriber-patient interactions to further understand both perspectives and facilitate improved clinical approaches when using LAIs.
Methods: Patients had a primary DSM-IV diagnosis of schizophrenia. Patient or caregiver and prescriber interactions (psychiatrists, nurse practitioners [NPs]) during treatment visits were recorded Aug 2011–Feb 2012 at 4 CMHCs in the US. Conversations were transcribed and analyzed. Discussion was categorized according to 11 predetermined topics occurring in a typical CMHC visit. Follow-up telephone in-depth interviews (TDIs) (psychiatrists, n=8; patients, n=12 [monthly x 3]; caregivers, n=4) were done to supplement information on LAI discussion, prescription, or use.
Results: In prescriber-patient conversations (60 with psychiatrists; 9 with NPs) treatment discussion and behavior modification/counseling occupied >50% of the visit and adherence occupied 2%. Prescriber-patient visits averaged 11.5 minutes (12 minutes for psychiatrists; 9 minutes for NPs). Treatment decisions were made without patient or caregiver input in 40 of 60 (67%) conversations but patients/caregivers were most involved in LAI treatment decisions (15 of the remaining 20). 22 Patients in the study were taking oral antipsychotics

and 38 were on LAIs. Prescriber main concerns about LAI recommendations were: damaging the therapeutic relationship and side effects; while the main patient-expressed barrier to LAI use was negative feelings about injections. Patients also mentioned barriers of transportation issues, pain during administration, and wishing the medication was more potent. Psychiatrists sometimes overcame patient LAI objections by decomposing resistance, uncovering resistance severity, and investigating beyond stated problems to address root issues. Of 19 LAI-naïve patients offered LAIs, 11 (58%) agreed to start treatment. Twelve LAI patients participated in TDIs: 9 (75%) reported improvement over 3 months and attributed success mainly to LAI treatment; none reported worsening condition. Patient-perceived LAI benefits vs oral included rapid symptom improvement and greater overall efficacy. Conclusions: This study characterized prescriber-patient interactions and perspectives on LAI treatment. Clinical decision points seemed to be influenced by pre-established perspectives on LAIs for both prescribers and patients. There is opportunity to increase active patient engagement, address resistance, and provide better LAI-relevant information for more individualized options and approaches to treating the patient with schizophrenia. Otsuka America Pharmaceutical Inc. and H. Lundbeck A/S funded the study

NR10-37
PATIENT FUNCTIONING AND MEDICATION SATISFACTION WITH PALIPERIDONE PALMITATE FOLLOWING TREATMENT OF ACUTE EXACERBATION OF SCHIZOAFFECTIVE DISORDER

Lead Author: Dong-Jing Fu, M.D., Ph.D.
Co-Author(s): I Turkoz, Janssen Research & Development, LLC, Titusville, NJ
RB Simonson, Janssen Research & Development, LLC, Titusville, NJ
D Walling, Collaborative Neuroscience Network, Inc, Garden Grove, CA
N Schooler, SUNY Downstate Medical Center, Brooklyn, NY
J-P Lindenmayer, New York University, New York, NY
J Panish, Janssen Scientific Affairs, LLC
L Alphs, Janssen Scientific Affairs, LLC

SUMMARY:
Introduction: Patient functioning and treatment satisfaction are important aspects of therapeutic response in serious mental illnesses like schizoaffective disorder (SCA). This analysis examined functioning using the Personal and Social Performance (PSP) scale and medication satisfaction using the Medication Satisfaction Questionnaire (MSQ) at the end of the 25-week open-label (OL) phase of a maintenance study in SCA (a randomized, double-blind [DB], placebo-controlled international study of the long-acting injectable antipsychotic paliperidone palmitate [PP]).

Method: This analysis of OL data is from an ongoing, multiphase study in patients with acute exacerbation of SCID-confirmed SCA (NCT01193153). Subjects stabilized on PP (78–234 mg/mo) during a 13-week OL flexible-dose period continued into a 12-week OL fixed-dose period. Those maintaining stability in this OL phase were randomized to PP or placebo in a 15-month DB phase. Assessments included CGI-S-SCA, PSP, and patient-rated MSQ. The CGI-S-SCA is scored 1–7 (normal to most severely ill). The PSP is scored 1–100 (higher score indicates better functioning) based on evaluation of four domains (socially useful activities, personal and social relations, self-care, and disturbing/aggressive behaviors); the level of function for each PSP domain is assessed on a 6-point severity scale: absent, mild, manifest, marked, severe, and very severe. The MSQ is a 7-point scale: 1 = extremely dissatisfied to 7 = extremely satisfied. Data from the OL phase are presented using all subjects who had at least one injection. Mean changes from baseline to OL LOCF end point were examined using a paired t-test. No adjustment was made for multiplicity.

Results: 667 subjects enrolled; 349 subjects completed the OL phase. Mean (SD) age: 39.5 (10.7) years; 54% male; 49% on PP monotherapy, 51% on adjunctive antidepressants (AD) or mood stabilizers (MS). Mean (SD) baseline CGI-S-SCA and PSP total scores: 4.4 (0.6) and 51.6 (10.9), respectively. Mean (SD) change at end point in CGI-S-SCA score: -1.3 (1.1) ($P<0.001$). Mean (SD) PSP score improvement at end point: 13.6 (14.9) ($P<0.001$). Subjects with manifest to very severe impairment on the PSP domains of socially useful activities and personal and social relations decreased from 92.2% and 89.1% at baseline to 58.6% and 46.0% at end point. Subjects with manifest to very severe impairment on the PSP domains of self-care and disturbing/aggressive behaviors decreased from 28.9% and 36.7% at baseline to 11.9% and 9.9% at end point. The proportion of subjects "satisfied" with their medication per MSQ score (5–7) increased from 38.2% at baseline to 75.1% at end point.

Conclusion: OL results suggest that functioning and medication satisfaction improved in tandem with symptom improvement during 25 weeks following treatment with PP as monotherapy or adjunctive to MS/AD in acutely ill subjects with SCA.

Funded by Janssen Scientific Affairs, LLC

NR10-38
PERSPECTIVES ON LAI ANTIPSYCHOTICS FOR SCHIZOPHRENIA: CONSIDERATION OF PATIENT ETHNIC/CULTURAL DIFFERENCES IN PLANNING INDIVIDUAL TREATMENT

Lead Author: Rimal B. Bera, M.D.
Co-Author(s): Steven Potkin, MD, University of California, Irvine, School of Medicine.
Donna Zubek, BSN, MBA,Otsuka America Pharmaceutical, Inc.
Gina Lau, PharmD, Otsuka America Pharmaceutical, Inc.

SUMMARY:
Introduction: Long-acting injectable (LAI) antipsychotics in naturalistic settings improve treatment outcomes in patients with schizophrenia vs orals but are underused and often reserved for the most severely affected/nonadherent patients. Multiple studies have found ethnic differences in LAI prescription patterns. This study examined prescriber-patient interactions to investigate impact of select ethnic/cultural differences among patients with schizophrenia on perceptions towards LAIs and LAI use.
Methods: Linguists analyzed 120 prescriber-patient conversations for patient attitudes toward antipsychotic medications in general and LAIs in particular; n=40 each for Hispanic (HS), Caucasian (CA), and African-American (AA) patient groups. A method of constant comparison was used to identify themes and patterns first among patients within an ethnic/cultural group and then across ethnic/cultural groups to identify similarities and differences in LAI conceptualization and attitudes.
Results: Most patients were male and had ?10-year history of schizophrenia, with the exception of the AA group (50% male and most [65%] had a <10-year history of schizophrenia). More CA patients had previous psychiatric hospitalizations (85% vs 73% AA and 78% HS) and all groups were similar in mean age (early 40s). Overall: 35 (29%) patients were LAI naïve (16 [13%] AA, 14 [12%] CA, and 5 [4%] HS); 38 (32%) patients were on LAIs at the time of the study (15 CA, 13 AA, and 10 HS); and 47 (39%) were on orals. Of the 35 LAI-naïve patients offered LAIs: 3 (60%) HS, 7 (50%) CA, and 6 (38%) AA expressed unfavorable responses; favorable responses (compliance benefits, extended consistency/efficacy) were expressed by 2 (14%) CA, 1 (6%) AA, and 0 HS LAI-naïve patients; others were neutral/passive. Overall, patients expressed 2 types of treatment orientations/goals for treatment: control of positive/negative symptoms and discomfort control (insomnia, anxiety). Patients focused on positive/negative symptom control generally expressed positive attitudes towards LAIs whereas discomfort control was associated more with refusal to start or restart an LAI. HS patients seemed more focused on discomfort control (67%) vs. symptom control whereas the other 2 groups were more equally distributed with respect to treatment orientations. Patients presenting with strongly disordered thinking were also more likely to focus on treating discomfort concerns. Dislike of needles was more pervasive in AA conversations than in HS or CA groups
Conclusions: CA and AA patients' focus on positive/negative symptom control associated with positive attitudes towards LAIs and HS patients' focus on discomfort from sleep problems/anxiety may be helpful to consider when presenting an LAI treatment option. However, ethnic/cultural differences may be confounded by severity of schizophrenia/control of schizophrenia symptoms. Otsuka America Pharmaceutical Inc. and H. Lundbeck A/S provided study funding.

NR10-39
PHENOTYPING THE SPECTRUM: CURRENT EMPIRICAL EVIDENCE OF ANOMALOUS SUBJECTIVE EXPERIENCE AS CORE FEATURES OF SCHIZOPHRENIA SPECTRUM DISORDERS

Lead Author: Peter Handest, M.D., Ph.D.
Co-Author(s): Andrea Raballo, MD, PhD
Josef Parnas MD, professor, dr.med.scient

SUMMARY:
Background
Anomalous experiences of self-awareness (self-disorders) are a sub-group of subjective pathology, and has been hypothesized to constitute a core phenotype of schizophrenic spectrum disorders.
Subtle anomalies of subjective experience (self-disorders) affecting the sense of being an active, unified and embodied subject have been described as immanent features of schizophrenia since early 20th century, thereby constituting a phenotypic anchor of the validity of the schizophrenia spectrum concept.
Although somewhat neglected in modern psychiatry, these anomalies nevertheless have been thoroughly investigated in continental European psychiatry, where it has been shown that their presence antedates future psychosis.

Method
Drawing on the results of our own three separate empirical studies the distribution of self-disorders in patients with schizophrenia, psychotic bipolar illness, schizotypal disorder and other mental illnesses, and relatives with no mental illness is described.

Results
Self-disorders (SD) follow the same distributional pattern (i.e. schizophrenia spectrum>non-spectrum) in both clinical and non-clinical populations. SDs are equally frequent in schizophrenia and schizotypal disorder, and among genetically high risk groups and increasing dose-response relation characterizes the frequency of SDs according to the degree of manifestness of (i.e. schizotypal personality disorder>non-schizotypal personality disorder>no personality disorder with schizotypal traits > no personality disorder with no schizotypal traits).

Conclusion
The results support the schizophrenia spectrum hypothesis, that self-disorders serve as a phenotype of schizophrenia-spectrum disorders in both clinical and genetically high risk populations and that self-disorder are distinct prodromal symptoms.

NR10-40
QUALITY OF LIFE IN SCHIZOPHRENIA

Lead Author: Mariana Maris, M.D.
Co-Author(s): Florina Ra?oi[1]
Delia Marina Podea1

SUMMARY:
Background: Interest in patient's social functioning with paranoid schizophrenia diagnosis has increased dramatically in recent years. Numerous quality of life assessment scales are investigating different areas, assessing basic daily needs: physical and mental health, health care, safety and security, food, housing, education, interpersonal ties, finances, activi-

ties, environment, dependence leisure, work, religion, related to personal experience.
Objectives: The aim of this study is to establish the influence of different variables like: age at onset, gender, residence area, education level, professional level, length of illness, pharmacological therapy on quality of life in subjects with paranoid schizophrenia.
Material and methods: The study comprises a number of 100 subjects (50 without psychiatric diagnosis and 50 diagnosed with paranoid schizophenia according with DSM-IV-TR and ICD-10 criteria). For evaluation we used Quality of Life Rating Scale(QOL) and The Perceived Wellness Survey (PWS) which is a self application questionnaire.
Results: The results showed that most subjects diagnosed with paranoid schizophrenia have poor social functioning, but later onset of disorder is correlated with better social functioning. Women have higher scores on subscales of social employment or independence .

Conclusions: The study revealed that paranoid schizophrenia has poor social functioning. Females and later onset correlates with a higher social functioning.
Keywords: paranoid schizophrenia, gender, later onset, social functioning.

NR10-41
RELATIONSHIP BETWEEN STIGMA AND RECOVERY IN PSYCHOSIS

Lead Author: María Paz García-Portilla, M.D., Ph.D.
Co-Author(s): Leticia García-Álvarez, Serafín Lemos-Giráldez, Nuria Ordóñez-Camblor, Mercedes Paino, Patricia Burón, Oscar Vallina, Guillermo Vallejo, Jessica Solares and Julio Bobes

SUMMARY:

Introduction: Social stigma is one of the factors that can influence occurring relapses in psychotic patients.

Objectives: 1. to describe the level of stigma in the sample. 2. to identify the relationship between stigma and: a) the recovery process; b) psychotic symptoms (positive, negative and depressive). 3. to identify the differences in stigma in function of the stage of recovery.

Methods: Multicenter, observational study to assess the recovery process of psychotic patients. Sample: 95 patients from 5 Mental Health Centers sited in the North of Spain [Diagnosis: Paranoid Schizophrenia (53,7%), Brief Psychotic Disorder (9,5%), Delusional Disorder (6,3%), Schizoaffective disorder (3,2%), Schizophreniform Disorder (3,2%), Schizotypal Personality Disorder (3,2%), other psychotic diagnosis (20.9%);70.5 % males; mean age (SD) = 34.74 years (9.25)]. Instruments: (1) Internalized Stigma of Mental Illness (ISMI) scale, (2) The Community Assessment of Psychic Experiences (CAPE), (3) Stages of Recovery Instrument (STORI), 3 clusters version.

Results: the sample has felt stigmatizaded, mean (SD) = 61.14 (13.82). More stigmatizaded patients were more likely to be less recovered (stage 1 of STORI, rp= 0.79, p<0.01) and had more psychotic symptoms (positive, negative and depressive, rp= 0.27; 0.46; 0.41, p<0.01). Conversely, less stigmatizaded patients were more likely to be more recovered (stages 2 and 3, rp= -0.33 and rp= -0.56, p<0.01) and had less psychotic symptoms. There were differences in the stigma level in function of the stage of recovery. There were more differences between stages 1 and 3 (F= 41.02, p= 0.000001).

Conclusions: stigma is an important factor that influence the recovery process of people with psychotic disorders.

NR10-42
REMISSION DURING 12 MONTHS OF DOUBLE-BLIND TREATMENT WITH LURASIDONE VS. QUETIAPINE XR IN PATIENTS WITH SCHIZOPHRENIA

Lead Author: Antony Loebel, M.D.
Co-Author(s): J. Cucchiaro, J. Hsu, K. Sarma, P. Werner, A. Pikalov, J.M. Kane

SUMMARY:

Introduction: The aim of this post-hoc analysis was to evaluate the effectiveness of lurasidone and quetiapine XR (QXR) in achieving remission in a patient population that had been recently hospitalized with an acute exacerbation of schizophrenia.
Methods: This was a double-blind, parallel-group study that evaluated the relapse prevention efficacy of 12 months of flexible-dose treatment with lurasidone (40-160 mg/day), compared with QXR (200-800 mg/day), in outpatients with an acute exacerbation of chronic schizophrenia who had recently completed 6 weeks of randomized, double-blind, placebo-controlled, fixed dose treatment with either lurasidone or QXR. The primary endpoint, time-to-relapse in responders to initial treatment with lurasidone (n=132) and QXR (n=72), was analyzed using a Cox proportional hazards model. Here, we determined remission rates using the Remission in Schizophrenia Working Group (RSWG) criteria for symptomatic remission, which require a score of 3 (mild) or better for all of the 8 PANSS items (Andreasen et al, Am J Psychiatry 2005;162:441-9). Remission rates were analyzed utilizing the standard minimum 6 month duration criterion (sustained remission) and without this criterion (symptomatic remission). A logistic regression analysis (using both observed case [OC] and last observation carried forward [LOCF] samples) was performed with the remission, based on RSWG criteria, as the dependent variable, treatment as a categorical factor, and baseline PANSS total score as a covariate.
Results: Twelve months of treatment with lurasidone was associated with a lower risk of relapse compared with QXR, with a hazard ratio [95% CI] of 0.728 [0.410, 1.295], indicating a 27.2% reduction in relapse risk. Subjects treated with lurasidone were significantly more likely, compared with QXR, to meet sustained remission criteria at 12 months (61.9% vs. 46.3%; p=0.043; LOCF). During 12 months of treatment, there was higher attrition due to insufficient clinical response in the QXR group vs. the lurasidone group (21.2% vs. 9.3%).

The differential attrition may have contributed to the similar sustained remission rates observed for the group of subjects who completed 12 month of treatment with lurasidone vs. QXR (71.8% vs. 69.7%; p=0.741). Subjects treated with lurasidone were significantly more likely, compared with QXR, to achieve symptomatic remission at Month 6 (66.7% vs. 52.7%; p<0.01; OC analysis); numerical separation in symptomatic remission rates was maintained at Month 12 (75.3% vs. 68.6%).
Conclusion: In this study, a significantly higher proportion of subjects met RSWG criteria for symptomatic remission at 6 months, and sustained remission during 12 months of treatment with lurasidone compared with QXR. Both symptomatic and sustained remission are attainable goals in the long-term treatment of schizophrenia.

Clinicaltrials.gov identifier: NCT00789698
This study was sponsored by Sunovion Pharmaceuticals, Inc.

NR10-43
SAFETY AND PHARMACOKINETICS OF ASCENDING DOSES OF ADJUNCTIVE LISDEXAMFETAMINE DIMESYLATE (50-250 MG) IN ADULTS WITH CLINICALLY STABLE SCHIZOPHERNIA

Lead Author: James Ermer, M.S.
Co-Author(s): Patrick Martin, MD; Lev Gertsik, MD; David Walling, PhD; Bryan Dirks, MD; Annette Stevenson, MS; Mary Corcoran, MS; Aparna Raychaudhuri, PhD

SUMMARY:

Objective: To assess safety and pharmacokinetic properties of lisdexamfetamine dimesylate (LDX), a long-acting d-amphetamine prodrug, in adults with schizophrenia.

Methods: This double-blind, placebo-controlled study enrolled adults aged 18 to 65 years with schizophrenia (?2 years). Participants had clinically stable schizophrenia with baseline Positive and Negative Syndrome Scale positive subscale scores <21 and were adherent to antipsychotic therapy (?12 weeks). Participants were randomized to placebo or ascending LDX doses (50, 70, 100, 150, 200, and 250 mg/d) administered once daily for 5 days at each dose level (Periods 1-6, Days 1-5). Safety assessments included treatment-emergent adverse events (TEAEs) and vital signs. Summary statistics for all pharmacokinetic parameters and linear-dose proportionality were assessed for Cmax (maximum plasma concentration) and AUCtau (area under the plasma concentration-time curve over 24 h).

Results: Of 31 enrolled participants (placebo, n=7; LDX, n=24), 27 completed the study (placebo, n=6; LDX, n=21). TEAEs were reported in 57.1% (4/7) of participants receiving placebo and 95.8% (23/24) of participants receiving LDX (all doses). TEAEs with incidence ?20% in participants receiving LDX (all doses) vs placebo were tachycardia (LDX, 25.0% [6/24]; placebo, 28.6% [2/7]), tremor (LDX, 20.8% [5/24]; placebo, 14.3% [1/7]), insomnia (LDX, 20.8% [5/24]; placebo, 0), and constipation (LDX, 20.8% [5/24]; placebo, 0). No participant experienced a serious AE while on active treatment. Over all periods, mean postdose change (Day 5; up to 12 hours postdose) in systolic blood pressure (BP), diastolic BP, and pulse ranged from -4.62 to 8.05 mmHg, -3.67 to 4.43 mmHg, and -3.57 to14.43 bpm for placebo and -3.83 to11.25 mmHg, -1.55 to 5.80 mmHg, and -0.36 to 21.26 bpm for LDX. Mean (SD) Cmax for LDX ranged from 21.93 (9.96) ng/mL (50 mg LDX) to 181.53 (72.82) ng/mL (250 mg LDX). Mean (SD) AUCtau for LDX ranged from 25.6 (12.9) ng?h/mL (50 mg LDX) to 301.5 (105.9) ng?h/mL (250 mg LDX). Mean (SD) Cmax for d-amphetamine ranged from 51.68 (10.28) ng/mL (50 mg LDX) to 266.27 (56.55) ng/mL (250 mg LDX). Mean (SD) AUCtau for d-amphetamine ranged from 801.8 (170.2) ng?h/mL (50 mg LDX) to 4397.9 (1085.9) ng?h/mL (250 mg LDX). Both Cmax and AUCtau increased linearly with dose for d-amphetamine. Antipsychotic medications did not markedly impact the pharmacokinetics of d-amphetamine.

Conclusions: Over a wide range of ascending doses, LDX was well-tolerated in adults with clinically stable schizophrenia; this is consistent with previous findings with no unexpected TEAEs. Pulse, but not BP, tended to increase with ascending dose of LDX vs placebo. Consistent with previous LDX studies, mean d-amphetamine Cmax and AUCtau increased linearly with LDX dose. In this study, antipsychotic treatment did not markedly affect d-amphetamine pharmacokinetics.

Clinical research was funded by the sponsor, Shire Development LLC.

NR10-44
SAFETY AND TOLERABILITY OF ARIPIPRAZOLE ONCE-MONTHLY IN ADULTS WITH SCHIZOPHRENIA STABILIZED ON ATYPICAL ORAL ANTIPSYCHOTICS OTHER THAN ARIPIPRAZOLE

Lead Author: Timothy Peters-Strickland, M.D.
Co-Author(s): Timothy Peters-Strickland, M.D.; Arash Raoufinia, Pharm.D.; Suresh Mallikaarjun, Ph.D.; Patricia Bricmont, Ph.D.; William Kasper, Pharm.D.; Na Jin, M.S.; Ross A. Baker, Ph.D., M.B.A.; Anna Eramo, M.D.; Raymond Sanchez, M.D.; Robert D. McQuade, Ph.D.; Steven G. Potkin, M.D.

SUMMARY:

Objective: Evaluate the safety and tolerability of aripiprazole once-monthly (ARI once-monthly) - an extended-release injectable suspension - initiation in patients stabilized on oral antipsychotics other than aripiprazole (ARI). Previous pivotal Phase III trials have evaluated initiating ARI once-monthly in patients stabilized on ARI1.
Methods: Eligible patients who had a history of ARI tolerability were treated with oral atypical antipsychotics other than ARI. The study included a screening phase (30 days) and a treatment phase (28 days). It was a requirement for patients to be stabilized on oral atypical antipsychotics per investigator's judgment for ?14 days prior to administration of ARI once-monthly 400 mg (ARI once-monthly-400). Current oral antipsychotic was co-administered with ARI once-monthly-400

for 2 weeks to determine the safety and tolerability of a single ARI once-monthly-400 dose following treatment initiation. Safety assessments were adverse events (AEs); extrapyramidal symptoms (EPSs) using the Simpson–Angus Scale, Abnormal Involuntary Movement Scale, and Barnes Akathisia Rating Scale; suicidality using the Columbia Suicide Severity Rating Scale (C-SSR); clinical laboratory measures; and weight changes.
Results: 60 patients initiated ARI once-monthly-400, while continuing treatment for 2 weeks with oral risperidone (n=24), quetiapine (n=28), ziprasidone (n=5) or olanzapine (n=3). Symptoms remained stable, as assessed by Positive and Negative Syndrome Scale (PANSS) Total score. AEs were mild and dose-independent. Treatment-emergent (TE) AEs (?5%) were fatigue (8.3%), injection-site pain (8.3%), and restlessness (8.3%) for risperidone; insomnia (10.7%), dystonia (7.1%), injection-site pain (7.1%), toothache (7.1%), and increased blood creatinine phosphokinase (7.1%) for quetiapine; and muscle spasm (20.0%), tooth abscess (20.0%), and toothache (20.0%) for ziprasidone. Prior olanzapine-treated patients did not report any AEs. Incidence of TE-EPSs were similar in all groups (<5%), as assessed by objective EPS rating scales. There were no unusual changes in the C-SSR scale scores, weight, laboratory values or fasting metabolic parameters across all groups.
Conclusions: The AE profile of patients receiving ARI once-monthly-400 concomitant with oral atypical antipsychotics other than ARI was consistent with prior reports [1].

Reference: [1] Kane J, et al. J.Clin.Psychiatry 2012;73:617–624.

NR10-45
SAFETY, TOLERABILITY AND POTENTIAL THERAPEUTIC EFFICACY OF A NOVEL GLUTAMATE MODULATOR AS ADJUNCTIVE TREATMENT IN PATIENTS WITH SCHIZOPHRENIA

Lead Author: Justine M. Kent, M.D.
Co-Author(s): Anghelescu Ion-George, Kezic Iva, Daly Ella, Ceusters Marc, De Smedt Heidi, Van Nueten Luc, De Boer Peter

SUMMARY:

Introduction: This first-in-patient study investigated the safety, tolerability and potential efficacy of a novel mGluR2 positive allosteric modulator (JNJ-mGluR2 PAM) administered adjunctively in 3 schizophrenia subtypes: patients with Residual Negative Symptoms (NEG), patients with Residual Positive Symptoms (POS), and patients Partially Responsive to Clozapine (CLO). The study consisted of a 4-week double-blind period, followed by a 6-10 week open-label period. Efficacy exploration was for the purpose of signal-generation; as such, the study was not powered to determine statistical significance of effects. Methods: Patients were clinically stable for ?3 months, with residual symptoms not satisfactorily controlled by current treatments. Entry criteria were: 1) NEG subgroup: PANSS negative subscale ?18 and greater than the PANSS positive subscale; 2) POS subgroup: PANSS positive subscale ?15 and greater than the PANSS negative subscale; and 3) CLO subgroup: currently receiving clozapine for ?4 months with significant ongoing symptoms. At the start of the 4-week double-blind treatment period, patients were randomized in a 1:2:2 ratio to either placebo, JNJ- 50mg BID or JNJ-150mg BID, as adjunctive treatment to their current antipsychotic medication regimen. Results: 92 patients (mean age = 42 years, 67% male) were randomized (51% NEG, 27% POS, 22% CLO subgroups), and 71 (77%) completed the double-blind phase. Fifty-two percent experienced at least one adverse event; the most common being headache, dizziness, vertigo, and nausea. Dizziness-related and gastrointestinal adverse events occurred with greater frequency at the highest (150mg) dose. No clinically significant cardiovascular, metabolic or laboratory safety events were noted that were attributed to study drug. An efficacy signal was seen in the NEG subgroup. Conclusions: Safety of JNJ-mGluR2 PAM was established in this sample of schizophrenia patients; tolerability results suggest that titration may be beneficial. The efficacy signal seen in the NEG subgroup suggests this population warrants further evaluation in a formal proof-of-concept study.

NR10-46
SELF-REPORTED LEVELS OF ENGAGEMENT WITH FAMILY, FRIENDS, OR OTHERS BY PATIENTS WITH SCHIZOPHRENIA LIVING IN THE COMMUNITY

Lead Author: Michael Markowitz, M.B.A., M.D., M.P.H.
Co-Author(s): Lian Mao2; Qin Li2; Lynn Starr1; John Fastenau1

1Janssen Scientific Affairs, LLC, Titusville, NJ, USA ; 2Janssen Research and Development, LLC, Titusville, NJ, USA

SUMMARY:

Objective: To describe levels of self-reported engagement with family, friends, or others by patients with schizophrenia living in the community. Methods: The Research and Evaluation of Antipsychotic Treatment in Community Behavioral Health Organizations, OUTcomes (REACH OUT) study is an ongoing, longitudinal, observational registry collecting information on patients with schizophrenia over 12 months. Patient engagement was assessed with a questionnaire consisting of two questions each on frequency of interactions, such as talking, emailing, or getting together, with either a family member, a friend, or others, such as with another person that was planned ahead of time or with someone considered more than a friend, like a spouse, a boyfriend, or a girlfriend. Responses to each question can be “not at all,” which defined the not engaged cohort, or “once or twice,” “about once a week,” “several times a week,” or “about every day” over the past 4 weeks, which defined the engaged cohort. Interim data reported at the study enrollment visit were analyzed. Predictors of each type of engagement were evaluated using multiple logistic regression analysis. Odds Ratios (OR) and their 95% Confidence Intervals (CI) were computed for the predictors. Explanatory variables included age, gender, race,

ethnicity, education level, marital status, and living status. No adjustment was made for multiplicity. Results: 812 patients were available for analysis. A majority were engaged with their family (88.3%), friends (73.8%), or others (65.9%). More than half (52.5%) of the patients were engaged across all three groups. Approximately two-thirds (67.1%) of patients were engaged with both family and friends; 60.6% were engaged with both family and others; and 56.7% were engaged with both friends and others. Patients engaged with family versus those not engaged were more likely younger (OR: 0.97, CI: 0.95-0.99) and more likely lived in private housing or an apartment (OR: 3.33, CI: 2.09-5.29). Patients engaged with friends were more likely to be non-Hispanic (OR: 1.96, CI: 1.31-2.92) and live in private housing or an apartment (OR: 1.52, CI: 1.06-2.16). Patients engaged with others were more likely younger (OR: 0.98, CI: 0.97-0.99), more likely non-Hispanic (OR: 1.98, CI: 1.35-2.91) and more likely female (OR: 1.65, CI: 1.17-2.33). Education level, race, and marital status were not found to be statistically significant predictors of engagement. Conclusion: This analysis shows that the majority of patients with schizophrenia living in the community are engaged with their family, friends, or others. Patients who were younger, female, non-Hispanic, and lived in private housing or apartment tended to be more engaged.

Supported by Janssen Scientific Affairs, LLC.

NR10-47
SEVERE NEGATIVE SYMPTOMS IN SCHIZOPHRENIA: CLINICAL CORRELATES

Lead Author: Javad Moamai, M.D., M.Sc.
Co-Author(s): 1) Jacques Seguin, MD
2) Denis Boisvert, MD

SUMMARY:

Objective: Research on the association between negative symptoms and functional impairment in schizophrenia has yielded mixed results. Lack of consideration for the severity of symptoms could be a possible explication. The aim of the study was to measure the prevalence of Severe Negative Symptoms (SNS) and their clinical correlates contemporary schizophrenia.

Method: Pooled data were taken from a clinical sample of 130 PANSS and CGI (Clinical Global Impression scale) evaluations of schizophrenic (DSM-IV criteria) out-patients. A seven item composite score for SNS was generated (Negative Symptom Marder Factor). Logistic regression analysis was used as the principal statistical method.

Results: The prevalence rate for SNS was 26 %. Age (median: 37 years), gender (male: 82%) as well as the symptoms of disorientation and disturbance of volition were correlated with SNS ($F=18.42$, $df=4$, $p<0.0001$). However, no association with the depression item was observed. Furthermore, SNS were highly correlated with CGI ($r=0.49$, $p<0.0001$).

Conclusions: Despite some limitations, our results confirm the considerable presence of severe negative symptoms in male schizophrenic patients. They also suggest that SNS might be an important contributor to the severity of illness.

NR10-48
DOPAMINE SUPERSENSITIVITY PSYCHOSIS AND DEFICIT SYNDROME AS PUTATIVE SUBTYPES IN PATIENTS WITH TREATMENT-RESISTANT SCHIZOPHRENIA

Lead Author: Hiroshi Yamanaka, M.D.
Co-Author(s): Nobuhisa Kanahara, Tomotaka Suzuki, Masayuki Takase, Hiroshi Kimura, Masaomi Iyo

SUMMARY:

Treatment-resistant schizophrenia (TRS) is an operationally defined concept which is determined by dosage and treatment duration of at least two antipsychotics. Generally, schizophrenia is highly heterogeneous disorder, and numerous studies from multiple viewpoints have suggested several subtypes with relative homogeneity. Dopamine supersensitivity psychosis (DSP) is clinically characterized by rebound psychosis occurring immediately following treatment discontinuation and/or tardive dyskinesia (TD). DSP is presumed to be related to up-regulation of dopamine D2 receptors induced by long-term blockade by high-potency neuroleptics. Therefore, patients with DSP easily meet the TRS criteria, and indeed, treatment for the state is often quite difficult once the DSP has been established. On the other hand, deficit syndrome (DS), which is characterized by primary and enduring negative symptoms, is a well-known refractory subtype within schizophrenia. The patients with this syndrome present similar or lesser levels of positive symptoms than non-deficit syndrome, and some previous studies have suggested that patients with DS do not easily meet the TRS criteria. However, neither the rates of patients with DSP or DS among all TRS patients, nor the severities of symptoms in these two types, have been previously reported.

NR10-49
THE EFFECT OF BITOPERTIN, A GLYCINE REUPTAKE INHIBITOR, ON NEGATIVE SYMPTOM DIMENSIONS AND ASSOCIATION WITH ESTIMATED GLYT1 OCCUPANCY

Lead Author: Daniel Umbricht, M.D.
Co-Author(s): Ellen Lentz [1], Justine Lalonde [2], Meret Martin-Facklam [2], Luca Santarelli [2]. [1] Genentech, USA. [2] F. Hoffmann-La Roche LTD, Basel, Switzerland.

SUMMARY:

Background: At any point in time, negative symptoms affect up to 60% of patients with schizophrenia (SCZ).[1] There is currently no standard of care for the treatment of negative symptoms and pharmacologic treatment options are limited. [2] N-methyl-D-aspartate (NMDA) receptor hypofunction, implicated in SCZ, can be improved by increasing synaptic levels of the co-agonist glycine by inhibiting its reuptake via glycine transporter type 1 (GlyT1). Bitopertin (RG1678), a glycine reuptake inhibitor, may improve NMDA receptor

hypofunction by increasing synaptic glycine concentrations. In a phase 2 proof-of-concept study bitopertin improved negative symptoms in patients with predominantly negative symptoms[3].

Objective: To investigate if addition of bitopertin to continuing antipsychotic treatment affected key dimensions of negative symptoms compared with placebo in a post hoc analysis, and assess how such effects are associated with estimated GlyT1 occupancy.

Methods: Patients with predominantly negative symptoms received placebo, or bitopertin 10, 30 or 60 mg QD added to stable antipsychotic therapy for 8 weeks. The primary endpoint was change from baseline in the Positive and Negative Syndrome Scale (PANSS) negative symptom factor score (NSFS). Patients completing the 8-week trial per protocol (PP; n=231) were analyzed. The baseline scores of the items constituting the NSFS were subjected to a factor analysis. Effect sizes (ES) and response rates (?20% improvement) for the resulting factors were calculated for each dose group. GlyT1 occupancy was estimated by a PET based exposure-occupancy model derived in healthy volunteers. Response rates were calculated for each tertile of the estimated GlyT1 occupancy.

Results: Factor analysis of the baseline NSFS yielded two factors, avolition factor (AF) and an expressive deficit factor (EF), that accounted for 57% of the variance. At week 8 ES for the AF were 0.44 (10 mg), 0.54 (30 mg) and 0.13 (60 mg); ES for the EF were 0.29 (10 mg), 0.24 (30 mg) and 0.02 (60 mg). Response rates for AF and EF were 74% and 70%, respectively, for GlyT1 occupancies <46%; 57% and 64%, respectively, for occupancies of 47% –66%; and 46% and 57%, respectively, for occupancies >66%. Placebo response rates were 48% for AF and 39% for EF.

Conclusion: Exploratory analysis suggests that bitopertin exerts an effect on the negative symptom dimension of avolition and a less effect on expressive deficits. Low to medium GlyT1 occupancy is associated with the strongest effect in both dimensions.

1. Bobes J, et al. J Clin Psychiatry 2010;71:280–6
2. Hanson E, et al. Curr Psychiatry Rep 2010;12:563–71.
3. Umbricht D, et al. Schizophrenia Bulletin 2011;137:324.

NR10-50
THE PATTERN OF THE NEUROPLASTICITY IN PATIENTS WITH CHRONIC SCHIZOPHRENIA AND THE IMPLICATIONS FOR PSYCHIATRIC REHABILITATION

Lead Author: Tae-Young Hwang, LL.B., M.D., M.P.H.

SUMMARY:

Objective: The aim of this study is to investigate the pattern of the neuroplasticity in patients with chronic schizophrenia through the evaluation of the response of serum Brain-Derived Neurotrophic Factor (sBDNF) to the quantified stimuli applied with repetitive Transcranial Magnetic Stimulation (rTMS).

Methods: Right-handed twenty inpatients, with chronic schizophrenia, on stable medication whose minimum duration of illness was 10 years were recruited. The handedness was assessed using Edinburgh Handedness Inventory. Consecutive 10 weekday sessions with 20 Hz rTMS (a total of 20,000 stimuli) were applied over the left dorsolateral prefrontal cortex at 100% of motor threshold. There was no change in the medication for at least 2 week before enrollment and 4 weeks thereafter. Primary outcome measure was the change in the mean concentration of duplicated sBDNF(pg/ml). Clinical severity or change was measured using the Clinical Global Impression scale (CGI) and the Positive and Negative Symptom Scale (PANSS).
Results: Eighteen participants (male, 10; female, 8) completed the study and were analyzed. The mean(SD) of chlorpromazine equivalent (CPZE) of antipsychotics were 1,325.69(761.58)mg. The mean(SD) of baseline CGI-severity and total PANSS score were 4.61(0.50) and 68.44(6.05), respectively.
The differences from baseline, in the level of sBDNF, just after the completion of rTMS sessions were statistically significant (paired t-test: t = 2.245, df =17, p = 0.038). At 2 weeks after the completion of rTMS sessions, however, the significance in the level of sBDNF was not manifest (t = 1.381, df = 17, p = 0.185).
Conclusion: The findings of this study showed that the neuroplasticity might be demonstrated through the quantified brain stimulations in patients with chronic schizophrenia. However, the pattern of the neuroplasticity suggests that there may be some limitations on psychiatric rehabilitation of patients with chronic schizophrenia.

NR10-51
THE USE OF A NOVEL URINE DRUG MONITORING TEST TO HELP ASSESS HOW WELL CLINICIANS PREDICT ANTIPSYCHOTIC MEDICATION NON-ADHERENCE

Lead Author: Matthew Mason Keats, M.D.
Co-Author(s): Harry Leider, MD, MBA, Chief Medical Officer, Ameritox, LTD
Kathryn Bronstein PhD, RN, Director, Medical Science and Health Outcomes Research, Ameritox, LTD

SUMMARY:

Introduction
Prior research has established the critical role of maintenance antipsychotic pharmacotherapy in the management of schizophrenia, schizoaffective disorder, and bipolar disorder. Yet adherence to these drugs is a significant challenge for treating clinicians, and studies show that about 50% of patients with these disorders do not take their antipsychotics consistently, often with devastating consequences.

Despite the key role of the prescribing psychiatrist in identifying and addressing non-adherence, relatively few studies have addressed how well psychiatrists and other prescribers are able to detect non-adherence. Furthermore, most of these studies relied on indirect measures such as pill counts, pharmacy refills, and electronic monitoring.

Methods
The current study utilizes a novel drug monitoring test to detect the presence of antipsychotic drugs and their metabolites in urine and reports on the results of a pilot study comparing prescribing behavioral health clinicians' assessment of their patients' adherence with the results of the urine monitoring test.

Three psychiatrists and three nurse practitioners working in a community mental health setting recorded their assessment of medication adherence for patients prescribed long-term antipsychotic medication. The patients were chosen as they came in for routine visits over a defined period of time. Subsequently, urine drug samples were obtained from these patients and analyzed for the presence of any of eight different antipsychotics using gas chromatography/mass spectrometry. The urine test result was then compared to the prescriber's assessment for the presence or absence of prescribed antipsychotic(s).

Results

Key results of the study are as follows: of 52 patients clinically assessed as adherent, prescribed antipsychotic was detected by the urine drug test as present in 33 and absent in 19. Of 10 patients clinically assessed as non-adherent or where the clinician was unsure, prescribed antipsychotic was detected by the urine drug test as present in 7 and absent in 3.

Noteworthy findings from the study include that in 37% of test samples from patients presumed by their clinician to be adherent, the prescribed antipsychotic was not detected (19/52), while 86% of test samples with no antipsychotic detected were from patients presumed to be taking the prescribed antipsychotics (19/22).

Conclusion
Utilizing a novel laboratory technology that directly detects the presence of antipsychotic in urine, this study produced findings consistent with existing literature regarding the relatively poor accuracy of clinical assessment of antipsychotic non-adherence. Given the serious consequences of antipsychotic non-adherence, the use of an easily administered, highly sensitive laboratory test may afford clinicians a new tool to more accurately identify antipsychotic non-adherence.

Ameritox funded this research and will pay for the author's travel expenses and poster production.

NR10-52
ASSOCIATION BETWEEN TYROSINE AND SMOKING IN PATIENTS WITH SCHIZOPHRENIA

Lead Author: Jyoti Kanwar, M.D.
Co-Author(s): Jyoti Kanwar1, 2, Olaoluwa Okusaga1,2, 3, Dietmar Fuchs4, Olesja Muravitskaja1, Ayesha Ashraf1, Sarah Hineman1, Ina Giegling5, Annette M. Hartmann5, Bettina Konte5, Marion Friedl5, Dan Rujescu5,6, Teodor T. Postolache1,7,8**
1Mood and Anxiety Program, University of Maryland School of Medicine, Baltimore, MD USA;
2St. Elizabeths Hospital, Psychiatry Residency Training Program, Washington, DC, USA; 3Department of Psychiatry and Behavioral Sciences, The University of Texas Health Science Center at Houston
4Division of Biological Chemistry, Biocenter, Medical University, Innsbruck, Austria
5Section of Molecular and Clinical Neurobiology, Ludwig Maximilians University, Munich, Germany;
6Department of Psychiatry, University of Halle-Wittenberg, Germany
7VA Capitol Health Care Network Mental Illness Research Education and Clinical Center, Baltimore, Maryland, USA;
8University of Maryland Child and Adolescent Mental Health Innovations Center, Baltimore, Maryland, USA
**Dan Rujescu, MD and *Teodor Postolache, MD contributed equally to this work*

SUMMARY:
Background: Patients with schizophrenia are known to have higher rates of smoking. Smoking has been implicated in various inflammatory processes. Inflammation decreases tetrahydrobiopterin levels that are in turn essential for functioning of tyrosine hydroxylase enzyme that aids conversion of phenylalanine to the essential amino acid tyrosine, precursor of dopamine. Thus, we tested the hypothesis that patients with schizophrenia who smoke will have decreased tyrosine and elevated phenylalanine levels. Method: Tyrosine, phenylalanine, tryptophan and kynurenine levels were measured in 950 patients (Male 600, Female 350, Age range 38± 11.6) with diagnosis of schizophrenia confirmed by SCID. Patients were recruited in both inpatient and outpatient setting in Munich, Germany. History of smoking was obtained by detailed clinical interviews and Fagerstrom nicotine dependence test. Data on PANNS scores, BMI and antipsychotic doses (in chlorpromazine equivalents) were also obtained. Statistical methods included paired t test and logistic regression multivariate models with adjustment for demographics and medication use. Results: 'Smoker' status was significantly associated with decreased tyrosine levels ($p = 0.012$. Differences in phenylalanine, phenylalanine/ tyrosine ratio, tryptophan, kynurenine and their ratio were not significant. Tyrosine –smoking association remained significant after multivariate adjustment for demographics, socioeconomic status, PANSS ($p = 0.048$). Conclusions: Our study, limited by its cross-sectional design, suggests that decreased tyrosine may play a role in mediating or moderating the previously reported association of smoking and schizophrenia, and provides a rationale for further investigation including proof of concept tyrosine supplementation trials in selected subgroups of patients. .

NR10-53
SAFETY AND TOLERABILITY OF LEVOMILNACIPRAN SR IN MAJOR DEPRESSIVE DISORDER: ANALYSIS OF 5 SHORT-TERM DOUBLE-BLIND, PLACEBO-CONTROLLED TRIALS

Lead Author: Michael E. Thase, M.D.

Co-Author(s): William M. Greenberg
Anjana Bose
Carl Gommoll
Changzheng Chen

SUMMARY:
Objective: Levomilnacipran (1S, 2R-milnacipran) is a potent and selective serotonin and norepinephrine reuptake inhibitor (SNRI) with approximately 2-fold greater in vitro potency for reuptake inhibition of norepinephrine than serotonin. A levomilnacipran sustained release (SR) formulation was developed for once daily dosing. This integrated summary evaluated the safety and tolerability profile of levomilnacipran SR in short-term studies in patients with major depressive disorder (MDD).

Methods: Data were analyzed from 5 randomized, double-blind, placebo-controlled trials: 4 US trials of 8 weeks' duration using flexible (2 trials: 40-120 mg/d) or fixed dosing (2 trials: 40, 80, 120 mg/d; 40, 80 mg/d) and 1 non-US study of 10 weeks' duration with flexible-dose 75-100 mg/day. Patients were aged 18-80 and met DSM-IV-TR criteria for MDD. Safety evaluations included adverse events (AEs), clinical laboratory tests, vital signs, ECGs, and the Columbia-Suicide Severity Rating Scale (C-SSRS) (4 US studies only). Analyses were based on the Safety Population (all patients who received at ?1 dose of levomilnacipran).

Results: Demographic and baseline characteristics were similar between levomilnacipran SR (n=1583) and placebo (n=1040) groups. Overall, 75% of levomilnacipran SR and 80% of placebo patients completed the trials. Treatment-emergent AEs (TEAEs) were reported in 77% and 61% of levomilnacipran SR and placebo patients, respectively. The most frequent TEAEs (?5% and twice placebo) for levomilnacipran SR vs placebo were nausea (17% vs 6%), constipation (9% vs 3%), hyperhidrosis (9% vs 2%), heart rate increased (6% vs 1%), erectile dysfunction (6% vs 1% of males), tachycardia (5% vs 1%), vomiting (5% vs 1%), and palpitations (5% vs 1%). No deaths were reported; incidence of serious AEs was similar between treatment groups (1%). In general, incidence of AEs was not dose related. Discontinuations due to AEs occurred in 3% of placebo and 9% of levomilnacipran SR patients. Suicidality TEAEs were low and similar in both groups. C-SSRS–rated suicidal ideation was reported in 22% of placebo and 24% of levomilnacipran SR patients; suicidal behavior was reported in <1% of patients in both groups. Mean changes from baseline in systolic blood pressure (BP), diastolic BP, and heart rate were +3.0 mmHg, +3.2 mmHg, and +7.4 bpm for levomilnacipran SR, and 0.4 mmHg, no change, and -0.3 bpm for placebo, respectively. There was a dose-dependent mean increase in QTcB interval in levomilnacipran SR patients and a mean decrease in placebo patients; mean changes in QTcF interval were small and similar between groups. No clinically significant effects on body weight or laboratory tests were reported.

Conclusions: Data from 5 double-blind trials indicate that levomilnacipran SR has a favorable safety and tolerability profile. This analysis was funded by Forest Laboratories, Inc.

NR10-54
A SWITCH TO ILOPERIDONE FROM CURRENT TREATMENT DUE TO SOMNOLENCE/SEDATION IN PATIENTS WITH SCHIZOPHRENIA: ARE CLINICAL OUTCOMES/TOLERABILITY AFFECTED?

Lead Author: Leslie Citrome, M.D., M.P.H.
Co-Author(s): Richard Jackson, MD, Wayne State University, Detroit, Michigan,
Peter J. Weiden, MD, Department of Psychiatry, University of Illinois at Chicago Medical Center, Chicago, IL,
Farid Kianifard, PhD, Novartis Pharmaceuticals Corporation, East Hanover, NJ
Xiangyi Meng, PhD, Novartis Pharmaceuticals Corporation, East Hanover, NJ
Adam Winseck, PhD, Novartis Pharmaceuticals Corporation, East Hanover, NJ

SUMMARY:
Background: Clinically relevant somnolence/sedation is a commonly encountered side effect of many antipsychotic medications and may trigger a switch in treatment. In the iloperidone Flexible-dose Study Assessing Efficacy and Safety and Tolerability of Two Switch Approaches in Schizophrenia Patients (i-FANS), adults with schizophrenia exhibiting suboptimal efficacy and/or safety/tolerability were switched either immediately or gradually from their current antipsychotic treatment of risperidone, olanzapine, or aripiprazole to iloperidone 12–24 mg/d. Clinical outcomes and tolerability of iloperidone treatment in the subgroup of patients who switched from their prior treatment due to somnolence/sedation are discussed.
Methods: Among inclusion criteria, subjects were required to be prescribed risperidone, olanzapine, or aripiprazole as maintenance therapy and continue to have persistent symptoms or tolerability problems. Subjects in this 12-week open-label study were randomized to 1 of 2 switch strategies: a gradual taper of their prior antipsychotic dose over a 2-week cross-taper period or an immediate switch. The primary variable was the Integrated Clinical Global Impression of Change (I-CGI-C); primary analysis time point was at Week 12. The somnolence subgroup was assessed by I-CGI-C, Safety and Tolerability CGI-S (ST-CGI-S), somnolence adverse events (AEs), and discontinuations due to somnolence.
Results: Of the 500 randomized subjects, 53 (10.6%) switched primarily due to somnolence/sedation (gradual switch, 26; immediate switch, 27). Among these patients, least-squares mean (LSM) I-CGI-C score (1 [very much improved] to 7 [very much worse]) at Week 12 was 2.88 for the gradual- and 2.41 for the immediate-switch group. LSM change scores for the ST-CGI-S (1 [normal, no symptoms] to 7 [among the most extreme]) were -1.42 and -1.72, demonstrating an improvement from baseline (mean baseline score: 3.7 and 3.9). The most commonly reported AEs were dizziness (9/26 patients) and dry mouth and headache (both 5/26) in the gradual-switch group and dizziness (7/27) and dry mouth and somnolence (both 5/27) in the immediate-switch group. Somnolence was reported as an AE by a total of 8/53

(15.1%) patients (gradual-switch, n=3/26; immediate-switch, n=5/27) and 1 patient (immediate-switch group) discontinued due to somnolence in this subgroup.
Conclusion: In patients who switched from their prior treatment due to somnolence/sedation, efficacy rating improvements and a positive safety/tolerability profile were observed upon switching either gradually or immediately to iloperidone. Somnolence was reported by 15% of patients within this subgroup over the 12 weeks of iloperidone treatment. This study was funded by Novartis Pharmaceuticals Corporation.

NR10-55
SWITCHING TO LURASIDONE IN PATIENTS WITH SCHIZOPHRENIA: TOLERABILITY AND EFFECTIVENESS AT 6 WEEKS AND 6 MONTHS

Lead Author: Joseph McEvoy, M.D.
Co-Author(s): L. Citrome, C. Correll, J. Hsu, A. Pikalov, J. Cucchiaro, A. Loebel

SUMMARY:

Introduction: The aim of these 2 studies was to evaluate the safety, tolerability and effectiveness of switching clinically stable but symptomatic outpatients with schizophrenia or schizoaffective disorder to lurasidone.
Methods: Non-acute patients who were considered to be appropriate candidates for switching current antipsychotic medication were randomized to three open-label lurasidone switch strategies: a 40/40 group (N=74) was started on 40 mg/d for 14 days; a 40/80 group (N=88) was started on 40 mg/d for 7 days, then increased to 80 mg/d for 7 days; and an 80/80 group (N=82) was started on 80 mg/d for 14 days. The prior antipsychotic was tapered off (50% step-down at the end of week 1; discontinuation after week 2). All patients were then treated for 4 weeks with lurasidone 40-120 mg/d. Time to treatment failure (insufficient clinical response, exacerbation of underlying disease or discontinuation due to an adverse event) was evaluated as the primary outcome. Subjects who completed the 6 week core study were eligible to enroll in a 6 month, open-label extension phase study with flexible doses of lurasidone (40-120 mg/day).
Results: Switching to lurasidone was well-tolerated with 198/244 (81.1%) subjects completing the core 6-week study; 19/240 (7.9%) subjects who received randomized medication experienced treatment failure. No clinically relevant differences in efficacy or tolerability were noted when comparing the 3 different switch strategies. Time to treatment failure was non-significantly earlier in patients who had been receiving a sedating antipsychotic compared with those who were receiving a non-sedating antipsychotic prior to switching to lurasidone (log rank p=0.101). Treatment with lurasidone in the core study was associated with LS mean (SE) within-group improvement in PANSS total score (-5.3 ± 0.7; 6 week, LOCF). Of the 198 subjects who completed the core 6 week study, 149 (75.3%) enrolled in an extension phase study and received 6 months of additional open-label, flexible-dose treatment with lurasidone (40-120 mg/day). Ninety-eight subjects (65.8% of the total) completed the extension phase. The most common reasons for discontinuation were withdrawal of consent (18/149; 12.1%) or AEs (17/149; 11.4%). At the end of 6 months open-label extension phase, minimal changes were observed in weight and lipid parameters. Treatment with lurasidone in the extension study was associated with additional improvement in PANSS (LS mean change, -3.6 ± 0.9 [OC; -1.5 ± 0.9, LOCF]), from extension baseline at Month 6.
Conclusions: In this study and its extension, switching to lurasidone was safe and well-tolerated regardless of initial dose. Patients switched to lurasidone maintained or improved symptom control during 6 weeks of initial treatment, and during the 6 month extension treatment period.

Trial Registration: Clinicaltrials.gov identifier: NCT01143077 and NCT01143090
Sponsored by Sunovion Pharmaceuticals Inc.

POSTER SESSION 11
BIOLOGICAL PSYCHIATRY, GENETICS, PSYCHOPHARMACOLOGY, AND OTHERS

NR11-01
ASSOCIATION OF PDE4B POLYMORPHISMS WITH SCHIZOPHRENIA IN A KOREAN POPULATION

Lead Author: Sung-il Woo, M.D., Ph.D.
Co-Author(s): Joon Seol Bae, Byung-Lae Park, Ji Won Kim, Hyoung Doo Shin

SUMMARY:

Schizophrenia is a debilitating mental disorder with a high heritability rate. Located on chromosome 1p31.3, the human cAMP-specific 3',5'-cyclic phosphodiesterase 4B (PDE4B) gene has been considered as an important candidate gene for the risk of schizophrenia. Several genetic association studies reported the association between PDE4B polymorphisms and the risk of schizophrenia in Caucassian, African American, Indian, Northwestern Han Chinese and Japanese populations. The aim of this study is to examine the association of PDE4B variations with schizophrenia in a Korean population. A case-control association analysis was carried out by comparing the genotype distribution of eight PDE4B polymorphisms between 457 schizophrenia patients and 386 normal healthy subjects. Differences in the frequency distribution of PDE4B SNPs and three haplotypes were analyzed by logistic regression analyses with adjusted age as covariate. Statistical analyses revealed nominal significant associations of rs1040716, rs472952, rs1321177, and rs2144719 with the risk of schizophrenia (P=0.02~0.05). In a meta-analysis with Han Chinese, Japanese, and Korean populations, three SNPs (rs472952, rs1040716, and rs2180335) revealed significant associations with schizophrenia (Meta P-value=3.9E-06~0.002, odds ratio=0.74). We suggest that the SNPs (rs1040716, rs2180335, and rs472952) may be genetic markers for schizophrenia in East Asian population. The findings in this study add a new evidence for the involvement of PDE4B gene into schizophrenia etiology.

NR11-02
LONG-TERM IMPACT OF DAYTIME SLEEPINESS

ON COGNITIVE OUTCOME IN A 6-MONTH, DOUBLE-BLIND STUDY OF LURASIDONE AND QUETIAPINE XR IN SCHIZOPHRENIA

Lead Author: Philip Harvey, Ph.D.
Co-Author(s): Antony Loebel, Josephine Cucchiaro, Robert Silva, Andrei Pikalov, Cynthia Siu, Henry Nasrallah

SUMMARY:
Objective

Daytime sleepiness is an adverse effect observed with some antipsychotic agents. There has been little systematic assessment of the long-term effect of drug-induced sedation during waking hours on cognitive performance. The objective of this post-hoc analysis was to evaluate the differential effects of two atypical antipsychotic agents on daytime sleepiness during 6 months of flexible dose treatment with lurasidone OR quetiapine XR in a double-blind study. The role of daytime sleepiness as a mediator of changes in cognitive performance was also evaluated.

Methods

This double-blind, continuation study included subjects who had completed an initial randomized, double-blind, 6-week trial. Subjects received continued treatment with flexible once-daily doses of lurasidone (40-160 mg; n=151, LUR-LUR) or quetiapine XR (200-800 mg; n=85, QXR-QXR). Subjects initially treated with placebo were started on flexible once-daily doses of lurasidone (40-160 mg; n=56). Cognitive performance was examined with the computerized CogState battery at baseline, 6 weeks, and 3 and 6 months in the extension phase. Sedation was assessed using the Epworth Sleepiness Scale (ESS), a validated patient self-report measure of daytime sleepiness.

Results

Mean changes in ESS total score from core baseline to Week 6 (end of acute phase) were -0.71 (SE 0.35) for LUR-LUR versus +0.26 (SE 0.48) for QXR-QXR ($p<0.05$). The treatment difference in ESS total score between LUR-LUR and QXR-QXR was maintained at week 32 (month 6 of extension) ($p=0.03$), with significantly lower sleepiness in the LUR-LUR group (LS Mean 4.4, SE 0.2) compared to the QXR-QXR group (LS Mean 5.9, SE 0.3). Subjects treated with lurasidone showed a significantly higher cognitive performance compared to quetiapine XR at months 3 ($p<0.05$) and 6 of the extension ($p<0.05$). There was a significant association between changes in ESS total score and CogState cognitive composite score from acute phase baseline to Week 32, with increase in ESS total score associated with lower cognitive performance ($p<0.05$, longitudinal mixed effects model). Statistical interaction test showed that the relationship between change in ESS and cognitive performance was similar for both lurasidone and quetiapine XR groups at Week 32 ($p>0.05$ for treatment-by-change in ESS score).

Conclusion

Treatment with 80 mg or 160 mg of lurasidone, administered once-daily in the evening, was associated with significantly less sedation compared with quetiapine XR (200-800 mg/d) over 6 months of treatment, assessed using the ESS. Increased daytime sleepiness was significantly associated with lower cognitive performance. Future research will need to examine the extent to which daytime sleepiness impacts functional capacity and quality of life.

Funded by Sunovion Pharmaceuticals, Inc.

NR11-03
PERNICIOUS DEPRESSION

Lead Author: Jill Joyce, M.D.

SUMMARY:
What is undisputed is that Vitamin B12 is essential for brain health. What is unclear is how much of a role B12 or its lack plays in depression and other psychiatric disorders, how best to test for and diagnose B12 deficiency, and the prevalence of B12 deficiency. For many years the acceptable levels of B12 in the body have been 200-1100 pg/ml. More recent work, including the addendums from Quest Laboratories, and Pocholok & Stuart, suggest the range needs to be 400-1100 pg/ml. An epidemiological study of Vitamin B12 levels in a typical suburban psychiatric practice was undertaken. The patient age range was 21-95 yo. The diagnoses ranged from anxiety to depression to psychosis and bipolar disorder. Three tests were performed- B12, Folic acid, and Methylmalonic Acid(MMA). A total of 207 patients were tested. Of these, all had normal folic acid levels. 68 of 198 or 0.3434% had low B12, with B12 under 400 pg/ml. 3 were under 200, 26 under 300. 12 of 173 had abnormally high MMA levels, ranging from 352-864, with 8 over 400. All identified as low B12 or High MMA were given B12 injections weekly or every two weeks. Results were anecdotally positive. B12 deficiency is possibly under appreciated as a cause for psychiatric illness.

NR11-04
RELATION BETWEEN PSYCHOLOGICAL TESTS AND EEG FUNCTIONAL CONNECTIVITY DURING EMDR THERAPY

Lead Author: Cinzia Niolu
Co-Author(s): G. Di Lorenzo, Department of Systems Medicine, University of Rome "Tor Vergata".
M. Pagani, Institute of Cognitive Sciences and Technologies, CNR.
L. Monaco, Department of Systems Medicine, University of Rome "Tor Vergata".
A.R. Verardo, EMDR Italy Association.
A. Daverio, Department of Systems Medicine, University of Rome "Tor Vergata".
I. Giannoudas, Department of Systems Medicine, University of Rome "Tor Vergata".
P. La Porta, EMDR Italy Association.

I. Fernandez, EMDR Italy Association.
A. Siracusano, Department of Systems Medicine, University of Rome "Tor Vergata".

SUMMARY:
Background: Psychological tests were recently related with EEG functional connectivity changes in traumatized subjects treated with the Eye Movement Desensitization and Reprocessing (EMDR). The aim of this study was to extend this evidence, investigating in a larger clinical sample of subjects with trauma-related disorders the relation between the lagged phase synchronization (LPS) indexes and psychological tests, specifically aimed to trauma-related experience, depressive symptoms and general psychophatology.
Methods: Twenty-eight victims of psychological traumas were recorded with a 37 channels EEG during the whole first EMDR session and during the whole last one performed after processing the index trauma. EEG functional connectivity analysis was based on the LPS, derived by a two-step eLORETA procedure: (1) a reduction of dimensionality of inverse matrix from 6239 voxels to 28 ROIs; (2) computation of LPS index, for each spectrum band, in all possible ROI pairs. At the beginning of the first and the last EMDR session, three self-report psychological tests were administered. The Impact of Event Scale (total score, IES-T; intrusion score, IES-I; avoidance score, IES-A) was used to measure the psychological response to stressful or traumatic life events during the previous week. The Beck Depression Inventory (total score, BDI-T) measured items related to the cognitive (BDI-C) as well as somatic symptoms (BDI-S) of depression. SCL-90 R was used as a measure of broad range of symptoms of psychopathology (Global Severity Index, GSI; Positive Symptom Total, PST; Positive Symptom Distress Index, PSDI). To evaluate the association between the LPS indexes (LPSs) of the ROI pairs and psychological tests a correlation analysis was carried out using a non-parametric randomization technique of the p value correction for multiple comparisons.
Results: All scores from psychological tests decrease significantly after EMDR therapy. IES-T scores showed a significant negative correlation with the LPSs in three pair-wise interactions: left and right anterior cingulate cortex (ACC) (theta band; r=-0.401), right posterior cingulated cortex (PCC) and right inferior parietal lobe (IPL) (theta band; r=-0.417), right ACC and right anterior frontal cortex (AFC) (alpha band; r=-0.418). IES-I was found to correlate significantly with LPSs in left and right AFC (theta band; r=-0.383), right ACC and in right orbito-frontal cortex (OFC) (alpha band; r=-0.373). IES-A correlated significantly with LPSs (theta band) in left and right ACC (r=-0.416) and in right PCC and right IPL (r=-0.459). No other significant interactions between LPSs and the scores of the other administered psychological tests was found.
Conclusions: After EMDR therapy, the decrease in psychological discomfort related to trauma, as reported by IES scores, is selectively associated with a functional connectivity enhancement in theta and alpha band of limbic and associative areas.

NR11-05
VORTIOXETINE IMPROVES A REVERSAL LEARNING DEFICIT IN RATS INDUCED BY SEROTONIN DEPLETION WITH PCPA

Lead Author: David A. Morilak, Ph.D.
Co-Author(s): A.L. Pehrson PhD2, C. Sánchez DSc2, A. Wallace PhD1

1Department of Pharmacology and Center for Biomedical Neuroscience, University of Texas Health Science Center at San Antonio, San Antonio, TX 78229, USA and 2Lundbeck Research USA, Paramus, NJ 07652, USA

SUMMARY:
Objective: Current treatments for depression, including serotonin-specific reuptake inhibitors (SSRIs), are only partially effective, with a high incidence of residual symptoms, relapse, and treatment resistance. Cognitive symptoms, including loss of cognitive flexibility, are key components of depression, and are associated with dysfunction of the prefrontal cortex. We have recently established reversal learning on an attentional set-shifting test (AST) as a rat model of this cognitive component of depression. Chronic stress, a known risk factor for depression, induces a reversal learning deficit in rats that is sensitive to SSRI treatment as well as direct serotonergic modulation, and which can be mimicked by serotonin depletion with PCPA. Vortioxetine is an investigational multimodal antidepressant that functions as a 5-HT3, 5-HT7 and 5-HT1D receptor antagonist, 5-HT1B receptor partial agonist, 5-HT1A receptor agonist and inhibitor of 5-HT transport in vitro. In this study, we investigated the potential antidepressant-like postsynaptic effects of vortioxetine on the reversal learning deficit induced in rats by PCPA.

Methods: Rats were treated for 4 consecutive days with saline or PCPA (4-chloro-DL-phenylalanine methyl ester hydrochloride, 200mg/kg/day, i.p.). This has been shown to deplete serotonin in the orbitofrontal cortex (OFC) by ~95%, and to establish a reversal learning deficit. Rats were then given either vehicle or vortioxetine (10 mg/kg, i.p.) once daily on days 5-7. The final injection was given 30 min prior to behavioral testing on the AST on day 7. The number of trials required to meet criterion (TTC) of 6 consecutive correct responses on the reversal learning task were analyzed by 2-way ANOVA followed by Newman-Keuls post hoc test, with significance set at $p<0.05$ (n=7-8/group).

Results: Replicating our previously published results, PCPA induced a reversal learning deficit on the AST, indicated by a significant increase in TTC on the reversal task (TTC = 18.0+1.4 vs 29.6+2.6; PCPA effect: $F=9.70$, $p<0.01$). Vortioxetine treatment abolished the PCPA-induced deficit in reversal learning (TTC=29.6+2.6 vs 19.6+1.9; Vortioxetine: $F=6.80$, $p<0.02$; Vortioxetine x PCPA: $F=7.58$, $p<0.01$), while having no effect on reversal learning performance in control rats (TTC=18.0+1.4 vs 19.6+1.9; ns).

Conclusions: Because PCPA depletes serotonin in the brain, including the OFC, the effectiveness of vortioxetine in alleviating the reversal learning deficit induced by PCPA may be attributable to its direct effects on specific post-synaptic serotonin receptors, e.g., agonist activity at the 5-HT1A receptor or partial agonist activity at the 5-HT1B receptor. Thus, the multi-modal pharmacological profile of vortioxetine may contribute to its potential utility as a novel antidepressant drug.

Commercial support: This research was funded by H. Lundbeck A/S and the Takeda Pharmaceutical Company.

NR11-06
UTILIZING THE PRESCRIPTION MONITORING PROGRAM IN OUTPATIENT PRACTICE

Lead Author: Elle Marie Sowa, B.A.
Co-Author(s): Jonathan C. Fellers, Rachna S. Raisinghani, Maria Santa Cruz, Priscilla Hidalgo A., Meredith S. Lee, Lady A. Martinez, Adrienne Keller, and Anita H. Clayton

SUMMARY:

Objective: Prescription drug misuse is a growing problem, and is often co-morbid with psychiatric disorders. Such misuse may result in multiple prescriptions or providers for the same drug, drug diversion, and increased incidence of intentional overdose and deaths. Prescription Monitoring Programs have been implemented in several states in response to these concerns. The aim of our study was to investigate the factors associated with a higher probability of prescription drug misuse in an outpatient psychiatry clinic using a Prescription Monitoring Program (PMP).

Method: The study was conducted at a Resident Physicians' outpatient psychiatry clinic at an academic medical center. Participants were 314 new patients age 18 or older enrolled over a period of 8 months. Resident physicians completed a data collection form for each participant using information from the patient interview and the PMP.

Results: At least one indicator of prescription drug misuse was found in 41.7% of patients. Over 69% of the patients that the residents believed were misusing prescription drugs actually met one of the criteria for prescription drug misuse. However, the PMP report changed the management only 2.2% of the time. Prior benzodiazepine use, prior opiate use, and having a personality disorder or chronic pain were associated with prescription drug misuse, with a higher percentage of participants with these factors displaying prescription drug misuse compared to patients without these factors.

Conclusion: Awareness of medical history and diagnostic factors associated with a higher probability of prescription drug misuse can improve identification.

NR11-07
A SYSTEMATIC LITERATURE REVIEW OF VALIDATED COGNITIVE ASSESSMENT MEASURES FOR USE IN SCHIZOPHRENIA, MAJOR DEPRESSIVE DISORDER AND/ OR BIPOLAR DISORD

Lead Author: Nadia Bakkour, Ph.D.
Co-Author(s): Nadia Bakkour1, Jennifer Samp2, Kasem Akhras2, Imen Soussi1, Fatma Zahra1, Gérard Duru3, Amna Kooli1, Mondher Toumi3
1Creativ-Ceutical, 500 Lake Cook Road #350, Deerfield, IL, USA
2Takeda Global Research and Development Center, Deerfield, IL, USA
3Université Claude Bernard Lyon 1, Lyon, France

SUMMARY:

Cognitive dysfunction is becoming increasingly recognized as a symptom in several mental health conditions, including schizophrenia, major depressive disorder (MDD), and bipolar disorder (BPD). Despite the recent awareness of this association and the plethora of available cognitive instruments, there is lack of a consensus on the appropriate instruments for assessing cognitive function in these disease states. We conducted a systematic review of the literature to identify a list of appropriate measures of cognitive function in schizophrenia, MDD, and BPD.

We performed a systematic literature search of Embase, PubMed/Medline, and PsycINFO using search terms relating to cognition, reliability, validity, and the diseases of interest. English language articles in humans dated 2000 to 2012 were included. Google and clinicaltrials.gov were searched in a similar manner to ensure comprehensiveness of results. From the initial database extraction, articles were excluded if a cognitive instrument was not assessed or did not involve schizophrenia, MDD, or BPD. Instruments were then identified from the articles. The article and instrument were further excluded if the instrument was not validated, the instrument was a subset of an already included test battery, the instrument was not informative to clinicians, or the study was a cross-validation. Instrument appropriateness was further assessed according to the five preset criteria previously set by the Measurement and Treatment Research to Improve Cognition in Schizophrenia (MATRICS) and approved by FDA: test–retest reliability, utility, relationship to functional status, potential changeability in response to pharmacological agents, tolerability and practicality for clinical trials.

The initial database search yielded 173 articles describing a total of 167 different instruments used to assess cognitive functioning. Seventeen additional instruments were identified through Google and clinicaltrials.gov. Studies and/ or instruments were excluded if the instrument was not a measurement tool (n=6), the instrument did not assess cognitive function (n=96), the instrument was not validated (n=21), the study was cross-validated (n=4), the instrument was a subtest of an already included battery (n=7), or the instrument was not informative to clinicians (n=3). The remaining 30

instruments were deemed appropriate measurement tools for assessing cognitive function in schizophrenia, MDD, and/ or BPD according to the MATRICS criteria. Of these, 27 were studied for use in schizophrenia, 1 for use in MDD, and 2 in BPD.

Among the broad range of cognitive assessment tools, only some fulfill the 5 criteria put forth by the MATRICS initiative. These findings suggest the need for careful selection of appropriate cognitive measures and development of guidance for appropriate use of these in key mental health disorders.

The analysis was sponsored and funded by the Takeda Pharmaceutical Company.

NR11-08
ANTIPSYCHOTIC USE PERSISTENCE PATTERNS IN PATIENTS WITH SCHIZOPHRENIA: POLYPHARMACY VERSUS MONOTHERAPY

Lead Author: Maxine Fisher, Ph.D.
Co-Author(s): Kathleen Reilly, MS; Keith Isenberg, MD; Kathleen F. Villa, MS

SUMMARY:

Objective: To characterize real-world patterns of persistence in patients with schizophrenia treated with antipsychotic (AP) monotherapy vs. patients treated with antipsychotic (AP) polypharmacy.

Methods: We examined commercial claims from 01/01/2007-04/30/2010 using the HealthCore Integrated Research Database. Patients (N=4,156) 13-64 years old with ? 2 claims for schizophrenia and treated with AP medications (2nd generation and/or 1st generation) were identified and followed for 1 year. Therapy groups were categorized as: AP monotherapy (1 antipsychotic: N=3,188; 77%) and AP polypharmacy (2+ antipsychotics: N=968; 23%). Persistence was defined as: (1) length of therapy (days without a 90-day gap in treatment) and (2) percent discontinuing by 3, 6 and 12 months (defined as a ?90 day gap in treatment of at least one AP). Measures were described as means and standard deviations for continuous variables and frequencies for categorical variables. Differences in mean length of therapy were compared using t-tests, and Chi-square tests were used to compare proportions of patients discontinuing. Logistic regression analyses were used to predict discontinuation before 12 months and OLS regressions to predict length of therapy by type of therapy controlling for gender, region, number of somatic and psychiatric comorbidities, Deyo-Charlson comorbidity score, and number of psychiatric and somatic medications.

Results: The majority of patients discontinued the AP they were taking at the start of the study period prior to the end of the one-year follow-up (77% of AP polypharmacy patients vs. 53% of AP monotherapy patients). 50% of AP polypharmacy patients discontinued their AP regimen (1 or more APs) prior to 3 months compared to 17% of AP monotherapy patients. The average length of therapy was 170±168.3 days and 253±147.4 days for AP polypharmacy and AP monotherapy patients, respectively ($p<0.01$). Similarly, 69% (N=425) of AP monotherapy patients under 26 (N=619) discontinued by 12 months compared to 47% of AP monotherapy patients over age 45 (N=614). Among AP polypharmacy patients, 88% of patients under 26 discontinued prior to 1 year and 72% of patients over age 45 discontinued. In multiple regression, both age and use of AP polypharmacy were independent predictors of length of therapy and discontinuation by 12 months. In addition, having ? 3 additional psychiatric medications was associated with shorter duration of therapy (-13 days, $p<0.01$).

Conclusion: Persistence with AP therapy is low among all patients, especially among younger patients and patients on polypharmacy (combinations of 2nd and/or 1st generation APs). Differences in continuance by age and type of therapy may be due to differences in disease severity requiring greater efforts to identify optimal treatment, as well as reduced insight that leads to lower adherence.

NR11-09
ARE STRESS RESPONSE AND COGNITIVE PERFORMANCE IMPAIRED IN PATIENTS WITH REMITTED DEPRESSION COMPARED TO HEALTHY CONTROLS?

Lead Author: Mazda Adli, M.D.
Co-Author(s): Felix Bermpohl, MD
Marcus Ising, PhD
Manfred Uhr, MD
Claudia Lange, MA

SUMMARY:

Studies on the long-term effects of a major depressive episode (MDE) on the responsivity of the hypothalamus-pituitary-adrenocortical (HPA)-system and cognitive functions to psychosocial stress are scarce, based on small or heterogeneous samples and have provided controversial results. We therefore compared 70 patients fully remitted from a major depressive episode for at least 6 months (average 31 months) and with no further axis I disorder with 77 healthy controls (HC). All participants underwent the Trier Social Stress Test (TSST) in a modified version where an affective go-nogo- (AGNG) -task to measure emotional-cognitive deficits follows a free speech delivery in front of an evaluating panel. On a separate testing day the AGNG was performed without the stress challenge to assess stress-dependent cognitive impairments. Salivary cortisol levels were collected to assess HPA response up to 1 hour post TSST. All participants were genotyped for 5 frequent polymorphisms of the GR-regulating FKBP5 gene (rs1360780, rs3800373, rs4713916, rs9470080, rs9296158) previously associated with depression, PTSD or response to antidepressive treatment. Across both groups we found a marked cortisol response to the TSST with no difference between groups. In the resting condition patients showed a significantly higher error rate than HC (12.5 vs. 10.1) after affective set-shifting within the AGNG task ($F=7.196$; $p=.008$) (but not during stress). In patients, error rates correlated positively with the duration of illness ($r=0.233$, $p=0.054$). Risk (minor) allele carrying patients

showed a blunted cortisol responsivity compared to HC in 2 of the 5 SNPs (rs3800373, rs9296158) pointing towards disease-dependent epigenetic effects. At the same time the risk allele in patients was associated with lower omission rates for negative (but not for positive cues) in the AGNG task pointing towards adaption processes. In sum, our findings point towards a restored HPA reactivity towards a psychosocial stress paradigm in patients fully remitted from MDE but reveal impaired executive performance during affective set-shifting which correlates with total illness duration. Finally, patients who are risk allele carriers of the investigated FKBP5 SNPs might show long-lasting epigenetic as well as adaptation effects which modulate cortisol response and cognitive performance despite full clinical remission. These findings may contribute to the understanding of the long-term neurobiological effects of clinically remitted MDE.

NR11-10
ARIPIPRAZOLE AUGMENTATION FOR TREATMENT OF PATIENTS WITH CHRONIC OR RECURRENT MAJOR DEPRESSIVE DISORDER

Lead Author: Chi-Un Pae, M.D., Ph.D.
Co-Author(s): Hong Jin Jeon, Boung Chul Lee, Ho-Jun Seo, Shin Gyeom Kim, E-Jin Park, Won Kim, Kyung-Phil Kwak, Changsu Han, Seong-Jin Cho, Jeong-Ho Seok, Sang-Woo Han, Tae-Youn Jun

SUMMARY:

Background: Patients with chronic or recurrent major depressive disorder (MDD) have faced a dearth of treatment options. The present study evaluated the effectiveness and tolerability of aripiprazole augmentation for the treatment of chronic or recurrent MDD. Methods: This was the first 12-week prospective, multicentre, open-label study of the effectiveness and tolerability of flexibly-dosed aripiprazole as an augmentation to ongoing antidepressant treatment in patients with chronic or recurrent MDD. The primary outcome measure for effectiveness was changes between baseline and endpoint (week 12) in total scores on the Montgomery–Asberg Depression Rating Scale (MADRS). Adverse events (AEs) occurring throughout the trial are also reported. Results: The MADRS total scores significantly decreased between baseline and endpoint (magnitude of difference = ?11.6, $p < 0.0001$). At the endpoint, the response rate was 55.2%, and the remission rate was 41.3%. Adjunctive aripiprazole treatment administered from week 1 through the endpoint was associated with remission and significant treatment responses. More than half (55.8%) of those taking adjunctive aripiprazole completed the study, and relatively few patients (6.7%) discontinued participation due to AEs. None of the patients discontinued participation in the study due to an inadequate therapeutic response. Common AEs included headache, akathisia, insomnia, and constipation. The mean dose of aripiprazole at the endpoint was 6.6 mg/d. Conclusion: Adjunctive aripiprazole may be effective and tolerable for patients with chronic or recurrent MDD. Adequately powered and controlled clinical trials should be conducted to confirm our open-label study findings.

NR11-11
ASENAPINE ONCE-DAILY DOSING IS ASSOCIATED WITH IMPROVED EFFECTIVENESS AND PATIENT ACCEPTANCE AS COMPARED TO TWICE-DAILY DOSING

Lead Author: Xiaowei Sun, M.D., Ph.D.
Co-Author(s): Joseph McEvoy, MD, Duke University Medical Center

SUMMARY:

Asenapine is an oral second-generation antipsychotic that is administered sublingually. It has been released with FDA labeling for twice daily dosing of 5 to 10 mg bid. However, the terminal half-life of Asenapine is 24 hours and once daily dosing is likely to be effective in reducing psychopathology. In addition, once daily dosing is likely associated with improved patient acceptance relative to twice daily dosing. Therefore, we randomly assigned 17 patients, who had a psychotic exacerbation of schizophrenia or schizoaffective disorder, to up to 14 days of treatment with either Asenapine 5 mg BID or Asenapine 10 mg QHS. We compared the changes in their psychopathology after receiving treatment and also investigated the medication acceptance by patients in two groups. In particular, 9 patients were assigned to once daily dosing and 8 were assigned to twice daily dosing. In once daily group, 2 patients discontinued treatment before 14 days due to inadequate effect; whereas in twice daily group, 2 patients discontinued treatment due to inadequate effect and 3 patients discontinued treatment due to intolerable side effect such as daytime drowsiness. Patient acceptance of the medication is rated as a scale of 1-7 with 1 as very acceptable and 7 as completely unacceptable. This scale is 2.0±0.73 (Mean±SE) in once daily group and 4.0±0.8 in twice daily group. Brief Psychiatric Rating Scale (BPRS) were measured at baseline, day 3, day 7 and day 14 after receiving treatment to evaluate psychopathology of patients. In once daily group, BPRS was reduced from 39.75±2.73 to 25.0±2.58 after Asenapine treatment. In twice daily group, BPRS was 37.5±1.7 at baseline and 32.8±3.5 after treatment. In summary, our results indicate that Asenapine once daily dosing is associated with improved effectiveness, patient acceptance as compared to twice daily dosing. Further study is under investigation to determine whether this result could be applied to a larger patient population. (This study is sponsored by Merck & Co., Inc.,)

NR11-12
ASSESSING 25-HYDROXY VITAMIN D LEVELS IN AN ADULT OUTPATIENT POPULATION: CLINICAL IMPLICATIONS FOR TREATMENT OPTIMIZATION

Lead Author: Arnold Walter Mech, M.D.

SUMMARY:

The measurement of Vitamin D (VD) levels has received attention in recent years for its importance in managing the risk of colon cancer, osteoporosis and other conditions and as such has become commonplace in family practice and internal medicine settings. (1). As VD plays many important roles in the brain that have significant clinical relevance, the measure-

ment of 25-Hydroxy Vitamin D (25-OHVD) deserves consideration in psychiatric populations. This constitutes a new area of inquiry with potential clinical relevance in treating psychiatric disorders. This "Sunshine Vitamin" has been shown to have a robust effect on brain catecholamine synthesis by tripling the in-vitro genetic expression of tyrosine hydroxylase (the rate-limiting enzyme in the production catecholamine). While sunlight has been tied to mood for decades, summer sunlight increases brain serotonin levels twice as much as winter sunlight and compatible with light and VD affecting mood.(3) Additionally, VD nuclear receptors have been localized in neurons and glial cells and genes encoding the enzymes of VD metabolism are expressed in brain cells. VD plays a role in the biosynthesis of brain derived neurotropic factors and may play a role in detoxification pathways by inhibiting nitric oxide synthase and increasing glutathione levels. (4)

There remain nonetheless little data on the range of baseline 25-OHVD levels in psychiatric populations. Such divergent factors as vocational and lifestyle issues to skin pigmentation are known to affect 25-OHVD levels. Appreciating 25-OHVD levels in adult patients in psychiatric settings can lead to consideration of the potential benefits of supplementing VD. Potential benefits may include augmentation strategies useful in planning treatment approaches for patients presenting with psychiatric complaints including depression, ADHD and disorders of vigilance.

Baseline 25-OHVD levels were obtained on 709 adult outpatients as part of assessing vitamin-co-factors of neurosynthesis. These levels also included levels of B12, folate and ferritin. The results were then considered in light of each patient's clinical presentation and consideration given to supplementing with daily sublingual Vitamin D3 (data presented elsewhere).

The results indicated that adult psychiatric patients frequently have sub-optimal 25-OHVD levels (mean 17 ng./m., normal range 30-100 ng./ml.) and may benefit from supplementation. Further studies are needed in psychiatric populations including prospective, randomized controlled trials and work is underway assessing the response to supplementation as levels that benefit colon and bone health may be different than levels associated with efficacy in patients receiving psychiatric treatment. With additional studies, the role of VD deficiency and supplementation in psychiatric patients can be adequately understood and potential benefits gained for patients seeking adjunct treatment of psychiatric disorders or the prevention of same.

NR11-13
ASSESSMENT OF PERFORMANCE-BASED INDICES OF FUNCTIONAL DISABILITY IN SCHIZOPHRENIA AND BIPOLAR ILLNESS: PRELIMINARY RESULTS OF THE VA CSP 572 STUDY

Lead Author: Larry J. Siever, M.D.
Co-Author(s): Philp D. Harvey, PhD, University of Miami Miller School of Medicine, John P. Concato, MD, Yale University, VA Connecticut HealthCare System, Michael J. Gaziano, MD, MPH, Harvard Medical School, the Massachusetts Veterans Epidemiology Research and Information Center (MAVERIC)

SUMMARY:

Background: Given the prominence of cognitive impairment and disability in both schizophrenia and bipolar disorder, substantial interest has arisen in identification of their determinants. Recent findings regarding the heritability of cognitive impairment and everyday disability has led to the suggestion that the cognitively demanding component skills that underlie disability, referred to as functional capacity, may also be heritable and associated with specific genetic polymorphisms. The current study addresses these issues, and here we are presenting initial data on recruitment and characterization of the sample.

Methods. This study, VA Cooperative Studies Program #572, is recruiting and assessing as many as 9,000 Veterans with either schizophrenia (SZ) or bipolar I (BP) disorder. A related VA initiative, the Million Veteran Program, has already recruited over 100,000 Veterans that will serve a source population for psychiatrically-healthy controls. Patients with SZ or BP at 26 VA medical centers are being enrolled and evaluated regarding cognition (NP tests), functional capacity (UPSA-B), suicidality (CSSRS), and comorbid conditions such as PTSD. The functional capacity measures are the primary focus of the assessment, as they have not yet been well-examined for genetic correlates. A pilot analysis will use genotyping and exome sequencing methods on a subsample of participants.

Results: A total of 5,xxx veterans (46% SZ, 54% BP) have been recruited and assessed to date. Veterans with SZ were more likely to never have been married or employed (other than military service) compared to Veterans with BP; lifetime PTSD and suicidality were more common in the BP patients. Performance on the functional capacity measures for both patient groups was, on average, within one point of all previously published studies with the UPSA-B, and the BP patients performed slightly better than SZ patients. Similarly consistent results were found for NP test performance, with mean t-scores for the Veterans with SZ of 35 (-1.5 SD) and 40 (-1.0 SD) for the Veterans with BP.

Discussion. This large and expanding sample of Veterans with schizophrenia and bipolar disorder is very representative of previous studies in terms of patients' performance and comorbidities. Future analyses will examine the genetic correlates of these performance-based measures of cognition and disability.

NR11-14
AT ANTIPSYCHOTIC-LIKE EFFECTIVE DOSES, CARIPRAZINE DISPLAYS POTENT DOPAMINE D3 AND D2 RECEPTOR OCCUPANCY IN VIVO AND EFFICACY ACROSS ANIMAL MODELS

Lead Author: Nika Adham, Ph.D.
Co-Author(s): István Gyertyan
Béla Kiss

SUMMARY:

Background: Cariprazine (CAR) is an orally active and potent dopamine D3/D2 receptor partial agonist with preferential binding to D3 receptors. Balanced and potent functional blockade of the D3 and D2 receptors may result in benefits

on cognitive deficits and augmented effects on mood and negative symptoms. We evaluated the CAR dose relationship between D3 receptor occupancy, functional activity, and efficacy in different animal models.

Methods: Striatal D2 and cerebellar D3 receptor in vitro affinity and in vivo occupancy in rats was determined using the high affinity agonist radioligand [3H](+)-PHNO. Established rat models of antipsychotic, procognitive, anxiolytic, antidepressant, and anti-manic activity were used to evaluate the effects of CAR, aripiprazole (ARIP), and risperidone (RISP) at various doses in rats.

Results: CAR, ARIP, and RISP demonstrated in vitro affinity for both D2 receptors (Ki [nM]: CAR, 2.65; ARIP 22.7; RISP, 5.61) and D3 receptors (Ki [nM]: CAR, 3.90; ARIP, 243; RISP, 9.17). CAR showed potent antipsychotic efficacy on conditioned avoidance response and amphetamine-induced motor activity tests (ED50: 0.8 and 0.1 mg/kg). It was as potent as RISP (ED50: 0.9 and 0.2 mg/kg) and more potent than ARIP (ED50: 18 and 3.9 mg/kg). At antipsychotic-like effective doses, CAR, ARIP and RISP, displayed high in vivo occupancy of D2 receptors (ED50 [% max inhibition]: CAR, 0.23 mg/kg [99.3]; ARIP, 7.65 mg/kg [91.9]; RISP, 0.29 mg/kg [89.2]); however, only cariprazine displayed potent in vivo occupancy of D3 receptors (ED50 [% inhibition]: CAR, 0.43 mg/kg [99.3]; ARIP, >30 mg/kg [26.4]; RISP: ~2.3 mg/kg [53.4]). In agreement with this, chronic treatment with cariprazine, but not RISP, at antipsychotic-like effective doses resulted in significant increases in D3 receptor expression in several brain regions. Additionally, CAR at doses at or below its antipsychotic-like effective doses demonstrated efficacy in antimanic (minimum effective dose, MED: 0.06 mg/kg), antidepressant (MED: 0.03 mg/kg), anxiolytic (MED: 0.2 mg/kg), and procognitive (MED: 0.02 mg/kg) rat models. In mice, procognitive and antidepressant-like effects were shown to be mediated via the D3 receptor as demonstrated via D3 receptor knockout mice.

Conclusion: At antipsychotic-like effective doses in rats, CAR demonstrated balanced and significant occupancy at both dopamine D2 and D3 receptors; other antipsychotics displayed D2 receptor high occupancy but minimal D3 receptor occupancy. These results suggest cariprazine shows distinct functional blockade of D3 receptors not seen with other atypical antipsychotics. Additionally, at antipsychotic-like doses CAR demonstrated efficacy in different rat models of psychosis, mood, anxiety, and cognition. The distinct D3 receptor mechanism of action may provide potential clinical benefits in improving cognitive deficits and mood symptoms.

This analysis was funded by Forest Laboratories, Inc. and Gedeon Richter, Plc.

NR11-15
BOTH ACUTE AND CHRONIC STRESS DECREASE THE THRESHOLD FOR CORTICAL SPREADING DEPRESSION: A POTENTIAL MECHANISM FOR STRESS-MIGRAINE RELATIONSHIP

Lead Author: Hale Yapici Eser, M.D.
Co-Author(s): Emine Eren Koçak, K?v?lc?m K?l?ç, Turgay Dalkara

SUMMARY:
Stress may provoke or change the course of psychosomatic disorders and it is the major trigger of migraine headache, which is also associated with anxiety and depression. In humans, it is suggested that migraine is linked to cortical spreading depression (CSD) and that the drugs used for migraine prophylaxis raise the CSD threshold. In a mouse model of stress, we aimed to study the effects of acute and chronic stress on the CSD threshold and CSD characteristics. Method: Mice were exposed to acute stress, chronic stress or were left undisturbed in their cages. We adopted and used a chronic stress model, which uses alternating stress paradigms for 28 days (Exposure to a rat for 1 hour, restraint stress for 2 hours and tail suspension for 6 minutes). To produce a model comparable to the chronic stress paradigm, mice were subjected to acute stress by combining restraint stress with exposure to a rat for 1 hour. The body weights of each group were recorded weekly. In anesthetized mice, two electrodes were placed over the skull on parietooccipital cortex for recording DC potential. A burr hole was drilled on the frontal region to expose the dura to varying concentrations of KCl. A cotton ball soaked with increasing KCl concentrations between 0.05 to 0.15 M was placed on the dura with 5 minute intervals to detect the CSD threshold. After that, another cotton ball soaked with 0.5 M KCl was placed on the dura and it was kept moist with 10 ?l of KCl solution for every 15 minutes. The frequency, duration, and conduction velocity of induced CSDs were measured. Cerebral blood flow (CBF) changes were detected by laser speckle contrast imaging. For the acute stress groups, CSD was recorded either immediately or 24 hours after the stress. For the chronic stress group, CSD was recorded 24 hours after the last stress paradigm. Mice were sacrificed at the end of the recordings and the adrenal tissue was removed and weighted. Results: The mean body weight of the chronic stress group was significantly lower than the other three groups ($p < 0.01$). The mean adrenal tissue weight of the chronic stress group was significantly higher than the other groups ($p<0.05$). The CSD threshold of chronic stress, acute stress and 24 hours after acute stress groups were significantly lower than the control group ($p<0.001$, $p=0.007$, $p=0.014$ respectively), with chronic stress group showing the lowest threshold. We did not observe any significant effects of stress on CSD frequency and CBF changes. Conclusion: Both acute and chronic stress decrease the threshold for CSD. The effect of acute stress on CSD threshold lasts for at least 24 hours. These findings suggest that acute and chronic stressors in humans may aggregate migraine attacks by lowering the CSD threshold. Deciphering the molecular mechanisms might help to gain insight to the mechanisms of other psychosomatic disorders.

NR11-16
CAN THE ANTIDEPRESSANT-LIKE EFFECTS OF BDNF BE PROLONGED?

Lead Author: Sean Amodeo
Co-Author(s): Anthony Levitt, Michael Same, and Kullervo Hynynen

SUMMARY:
Background:
An increase in brain-derived neurotrophic factor (BDNF) in the hippocampus has been shown to correlate with antidepressant-like effects in rats. However, non-invasive delivery to the hippocampus is impeded by the low permeability of BDNF across the blood-brain barrier and the non-site-specific diffusion of the molecule. Focused-ultrasound (FUS) is a technique that can achieve site-specific, non-invasive delivery of large molecules to the brain by temporarily disrupting the blood-brain barrier in the targeted region. By employing the forced-swim test (FST), we previously demonstrated the feasibility of using FUS to deliver peripherally administered BDNF, with antidepressant-like effects appearing after 80 minutes. However, this effect is short lived, as a result of the limited systemic half-life of BDNF. PEGylation, the practice of covalently attaching a polyethylene-glycol group to a molecule, has been shown in various studies to increase the systemic half-life of BDNF. In this experiment, we attempted to prolong the FST antidepressant-like effects of FUS-delivered BDNF through carboxyl-directed PEGylation of the molecule.

Methods:
15 male Sprague-Dawley rats received FUS-induced BBB disruption in the region of the hippocampus. The rats were then given one of four treatments, administered through a tail-vein catheter: PEGylated BDNF (n=4), raw BDNF (n=4), saline control (n=4), or imipramine control (n=4). The FST was performed 80 minutes, 2 days, 6 days, 10 days, and 17 days after treatment administration.

Results:
Repeated measures ANOVA demonstrated a significant effect of time on FST scores ($p<0.001$), and a significant interaction between time and group ($p<0.04$). This interaction was accounted for by the fact that at day 10 the mean FST score of the PEGylated BDNF group was significantly lower than that of the saline group ($p<0.04$) and the imipramine group ($p<0.02$), and was numerically lower than that of raw BDNF (mean difference -2.5). Although significance was reached only at day 10, the mean FST score for the PEGylated BDNF group was numerically lower than all other groups at every time from day 2 to 10. At no time was there a significant difference between mean FST score in the raw BDNF group as compared with any other group.

Conclusions/Discussion:
These results provide preliminary evidence that the antidepressant-like effect of a single dose of BDNF may be prolonged up to 10-17 days by PEGylating the molecule. This may have implications for future use in long-term treatment of depression with BDNF in humans.

NR11-17
CASE REPORT: PROLONGED DELIRIUM AFTER OLANZAPINE PAMOATE INJECTION, CONSEQUENCE OF PRO-INFLAMMATORY CYTOKINE SECRETION?

Lead Author: Thomas Sobanski, M.D.
Co-Author(s): Berit Wenda, MD - Thueringen-Kliniken GmbH, Saalfeld, Germany
Ilko Dafov, MD - Thueringen-Kliniken GmbH, Saalfeld, Germany
Gerd Wagner, PhD - University of Jena, Germany

SUMMARY:
Introduction: Post-injection delirium/sedation syndrome (PDSS) occurs in approximately 0.07% of olanzapine pamoate injections (1.4% of all treated patients). PDSS presents with symptoms similar to olanzapine overdose: e.g. sedation, confusion, unconsciousness, slurred speech, and altered gait. Symptom onset ranges from immediate to 5 hours post injection. Patients tend to recover within 24 to 72 hours. We report a patient who developed severe and prolonged delirium subsequently to olanzapine pamoate administration.
Case report: This 54 year-old patient had suffered from schizophrenia for 14 years. Due to side effects therapy was switched from flupentixol decanoate to oral olanzapine and subsequently to olanzapine long-acting injection (OLAI) treatment. Hereafter positive and negative symptoms as well as the patient`s adherence to therapy improved significantly. OLAI treatment was well tolerated. The patient had no history of severe somatic disease (weight: 163 lb, height: 6 ft, 1.2 in, BMI: 21.4). When the 7th olanzapine injection was given (after 3.5 months of OLAI treatment) the patient developed PDSS, in spite of proper injection technique being used. First symptoms were slurred speech, ataxia, visual hallucinations, and hyperhidrosis. After two hours psychopathology had progressed to full-blown delirium including clouding of consciousness, disorientation, agitation and tachycardia (145 bpm). When the patient was admitted to our ward stomatitis, pharyngitis and bronchitis were diagnosed (leucocyte ratio: 12 Gpt/l; 19 Gpt/l after 48 hours. C-reactive protein: 18 mg/l; 179 mg/l after 48 hours). Due to antibiotic therapy (ampicillin/sulbactam) and psychotropic treatment (haloperidol, diazepam) the infection as well as the symptoms of delirium started to improve after five days. After two weeks leucocyte ratios and C-reactive protein were normal. Nevertheless, electroencephalography still revealed signs of altered brain function (widespread 4/5-theta-activity) at that point. At the time of discharge (after 23 days) a restitutio ad integrum had been achieved, and OLAI therapy was continued later due to the given individual benefit.
Discussion: In the reported case PDSS progressed to severe delirium. In our opinion delirium was caused by the increased plasma concentrations of olanzapine as well as by the serious infection. The prolonged course of the syndrome may also have been due to the fact that pro-inflammatory cytokines (e.g. TNF-alpha, IL-1beta) suppress the activity of the hepatic cytochrome P-450 isoencyme CYP1A1, which is a major pathway of olanzapine metabolism. C-reactive protein, which was closely monitored in our patient, revealed a peak-like pro-

inflammatory cytokine response.
Conclusions: As this case shows, PDSS may convert to full-blown delirium if a severe infection is present. In these patients a transient switch from OLAI to oral olanzapine therapy may be considered to reduce the risk of harmful outcome.

NR11-18
COMPARATIVE STUDY OF RISPERIDONE, OLANZAPINE, AND QUETIAPINE FOR THE TREATMENT OF DELIRIUM

Lead Author: Kang Joon Lee, M.D., Ph.D.
Co-Author(s): Hyun Kim (MD, PhD. Inje Univ. Ilsanpaik Hospital)
Han Suh (MD. Inje Univ. Ilsanpaik Hospital)

SUMMARY:
INTRODUCTION
Delirium is a common neuropsychiatric disorder among medically ill patients. It is characterized by disturbance of consciousness, attention, cognition and perception and can also affect emotions, sleep and psychomotor activity. In terms of pharmacological treatment, antipsychotic medications are regarded as the treatment of choice for delirium.

OBJECTIVE
In this study, we compared the efficacy and safety of second generation antipsychotics risperidone, olanzapine, and quetiapine in patients of delirium admitted to medical and surgical wards.

METHODS
All subjects met DSM-IV diagnostic criteria for delirium. Subjects with delirium due to alcohol or benzodiazepine withdrawal, those with associated dementia, those suffering from a terminal illness or those who had comorbid psychotic disorders were excluded. A flexible dose regimen (risperidone 0.5 to 2mg, olanzapine 2.5-10mg, quetiapine 25-300mg) was used. Randomization and dose adjustments were carried out by one of the investigators and all the assessments were carried out by another investigator who was blind to the drug treatment being administered. The primary efficacy measure was the 1998 revision of the Delirium Rating Scale (DRS-R-98). Mini mental status examination (MMSE) was used as a secondary outcome measure for the study. Safety measures were rated on the Simpson Angus Scale, Abnormal Involuntary Movement rating scale(AIMS). All the patients were assessed consecutively for 6 days, at a particular time of the day (6:00-8:00 PM), on DRS-R-98, MMSE, Simpson Angus Scale, AIMS. Data were analysed using SPSS-14. Student's t test/chi-square test and one-way analysis of variance (ANOVA) were used for comparison between the groups.

RESULTS
The subjects were randomized to the risperidone(n=17), olanzapine(n=16), and quetiapine(n=15). The baseline clinical and demographic characteristics, including the DRS-R-98 scores, age and gender, did not differ significantly. The mean doses were 0.9±
0.4mg/day for rispesridone, 3.1±1.5mg/day for olanzapine and 110.5±75.6mg/day for quetiapine.
There was significant improvement in all the three groups at day 3 and 6 compared to the baseline. In all the groups, there was significant reduction in DRS-R-98 scores at day 3 and 6 compared to the baseline, and there was significant improvement in MMSE scores at day 3 and 6 compared to the baseline. There was no difference among the three groups. Tremor and bradykinesia were reported for two patients in the risperidone group and daytime somnolence was reported in two patients in quetiapine group. All EPSs were tolerate and mild to moderate.

CONCLUSIONS
To conclude, the present study suggests that risperidone, olanzapine, and quetiapine are effective in the management of delirium. Furthermore, there is no significant difference in the side effect profile of the three medications in patients with delirium.

NR11-19
CYTOCHROME P450 DRUG INTERACTIONS

Lead Author: Hissam E. Soufi, M.D.
Hissam E Soufi, MD
Vacaville, CA

SUMMARY:

Introduction:
This one sheet meds-template, made for use in work environments where psychiatrists are not permitted to carry mobile/smart phones, such as prisons. It was modified during its years of professional application.

Method:
Its single-sheet design is intended to provide a simple reference for checking drug interactions in the Cytochrome P450 system of liver enzymes. With the focus on most relevant groups for psychotropics medications, four groups have been selected: 3A4, 2D6,1A2 and the 2Cs. The interactions are charted based on reviews, follow up courses, periodic or life-long learning, major psychiatric books as listed below, and reviews by psychiatrists employing it in clinical practice.

Comments:
It is not intended nor possible to list here all agents; however, medications not listed here, can be easily placed in the appropriate column (Substrates in the middle column, inhibiters in left column and Inducers in right column) of its main enzyme in order to check the possible interactions and the possible level or range of severity of such interaction and to identify its Inhibiter or Inducers that may affect blood-levels of the intended psychiatric medication.

Conclusion:
This work is meant to act as a template to place psychiatric medications (past, present, and the latest) for referencing drug interactions. Results in determining possible drug interactions, like in other clinical matters, depends on the individual

psychiatrist and other references used.

Recommended references:
Textbooks/Online APA books and LL courses and books:
Textbook of Psychiatry 3rd ed., Hales, Yudofsky, Talbott. APP.
Comprehensive Book of Psychiatry 9th ed., Sadock, Sadock, Ruiz. LWW.
The Prescriber's Guide, Stahl. Cambridge UP. Rev. Ed.
APPI- psychopharmacology. Books and courses online.
Lifelong Journals FOCUS, 2nd Vol., Hales and Rapaport.
American College of Psychiatrists: PIPE.
Albert Einstein Neuro-psych Prep Courses. Kaufman.

NR11-20
DEEP BRAIN STIMULATION OF THE NUCLEUS BASALIS MEYNERT IN MILD AND MODERATE ALZHEIMER'S DEMENTIA

Lead Author: Jens Kuhn, M.D.
Co-Author(s): Katja Hardenacke and Joachim Klosterkötter, MD (Department of Psychiatry and Psychotherapy, University of Cologne, Germany)
Doris Lenartz, MD, Volker Sturm, MD, Mohammad Maarouf, MD (Department of stereotactic and functional neurosurgery, University of Cologne, Germany)
Hans-Joachim Freund (University of Düsseldorf, Germany)

SUMMARY:

Introduction
The increasing life expectancy, the shift of the age structure and the corresponding increase in dementia diseases causes an extraordinary need for medical treatment and advice. A therapeutic breakthrough using pharmacological, psychological or socially therapeutic interventions did not succeed yet, especially not in the most frequent type of dementia, the Alzheimer's dementia.
Based on translational data and first promising experiences with single case patients, the hypothesis, that deep brain stimulation (DBS) of the nucleus basalis of Meynert (NBM) contributes to a stabilization of cognitive performance via the modulation of network-connections, should be tested in a pilot study.

Method
Six patients, capable of informed consent, with a mild Alzheimer's dementia were treated with DBS of the Nucleus basalis of Meynert and evaluated regarding the cognitive performance (primary outcome parameter ADAS-cog), psychopathology, quality of life and side effects of DBS over a period of twelve months.

Results
THE ALZHEIMER DISEASE ASSESSMENT SCORE (ADAS-COG) AS WELL AS THE RESULTS OF THE MINI MENTAL STATUS TEST (MMST) SEEM TO PROVE A STABILIZATION OF THE COGNITIVE PERFORMANCE AFTER ONE YEAR TREATMENT WITH DBS. THE SCORES CONCERNING PSYCHOPATHOLOGY AND QUALITY OF LIFE DID NOT CHANGE IN THE FRAME OF THE TREATMENT. THE SPECTRUM OF SIDE EFFECTS CAME OUT TO BE EXTREMELY SMALL.

Conclusion
Based on the preliminary results the treatment with DBS seems to counteract the progression of cognitive degeneration and justify further research regarding the use of DBS for AD.
Nevertheless the confirmation of our results with a bigger collective of patients as well as the comprehension of the underlying mechanisms of DBS is required. Here the hypothesis that the modulation of neural oscillation in the frame of memory building and the increased distribution of neurotrophic substances can be used.

NR11-21
EFFICACY OF 13.3 MG/24H VS 9.5MG/24H RIVASTIGMINE PATCH ON DOMAINS OF THE ALZHEIMER'S DISEASE ASSESSMENT SCALE -COGNITIVE SUBSCALE

Lead Author: George T. Grossberg, M.D.
Co-Author(s): Carl Sadowsky MD, Monique Somogyi MD, Xiengyi Meng PhD

SUMMARY:

Efficacy of 13.3 mg/24 h versus 9.5 mg/24 h rivastigmine patch on domains of the Alzheimer's Disease Assessment Scale–cognitive subscale
George Grossberg,1 Carl Sadowsky,2 Monique Somogyi,3 Xiangyi Meng3
1St Louis University School of Medicine, St Louis, MO, USA; 2Division of Neurology, Nova SE University, Fort Lauderdale, FL, USA; 3Novartis Pharmaceuticals Corporation, East Hanover, NJ, USA
Introduction: The cholinesterase inhibitor rivastigmine is approved for the symptomatic treatment of mild-to-moderate Alzheimer's disease (AD). Rivastigmine displays dose-dependent efficacy on cognition, as measured using the Alzheimer's Disease Assessment Scale–cognitive subscale (ADAS-cog), in patients with AD. The objective of this post-hoc analysis of the OPtimising Transdermal Exelon In Mild-to-moderate Alzheimer's disease (OPTIMA) study was to define domains of the ADAS-cog, by factor analysis of the ADAS-cog items, and assess the efficacy of 13.3 mg/24 h versus 9.5 mg/24 h rivastigmine transdermal patch on these newly defined cognitive domains.
Methods: OPTIMA was a 48-week, randomized, double-blind (DB), multicenter study of 13.3 mg/24 h and 9.5 mg/24 h rivastigmine patch in patients with mild-to-moderate AD who demonstrated functional and cognitive decline during an initial open-label treatment phase (9.5 mg/24 h patch). Change from baseline on the ADAS-cog was a co-primary outcome measure. Post-hoc factor analysis was carried out using DB-baseline ADAS-cog item data in order to identify a 'best fit' for the 11 items of the ADAS-cog to newly defined domains. The change from DB-baseline was calculated for each domain and

compared for patients randomized to receive 13.3 mg/24 h versus 9.5 mg/24 h patch. P-values were obtained using an analysis of covariance model, adjusted for country and baseline ADAS-cog domain score.
Results: In total, 567 patients entered the DB phase; 280 patients were randomized to 13.3 mg/24 h patch and 287 patients to 9.5 mg/24 h patch. A trend towards reduced cognitive decline with 13.3 mg/24 h versus 9.5 mg/24 h was observed at all time points, which reached significance at Week 24 (p=0.027). The factor analysis identified two domains: memory and language. Significantly less cognitive decline was observed on the ADAS-cog memory domain with 13.3 mg/24 h compared with 9.5 mg/24 h patch at Week 12 (p=0.048) and 24 (p=0.021) using a last observation carried forward imputation, and at Week 12 (p=0.048), 24 (p=0.032) and 48 (p=0.022) using an observed cases approach. No significant between-group differences were observed on the ADAS-cog language domain.
Conclusion: These results indicate that the observed greater cognitive efficacy of the higher dose (13.3 mg/24 h) rivastigmine patch compared with 9.5 mg/24 h rivastigmine patch is driven primarily by significant effects on memory.
Poster development was funded by Novartis Pharmaceuticals Corporation, East Hanover, NJ.

NR11-22
EFFICACY OF HIGHER-DOSE 13.3 MG/24 H RIVASTIGMINE PATCH ON THE ALZHEIMER'S DISEASE ASSESSMENT SCALE–COGNITIVE SUBSCALE: INDIVIDUAL ITEM ANALYSES

Lead Author: Gustavo Alva, M.D.
Co-Author(s): Gustavo Alva1, Richard Isaacson2, Monique Somogyi3, Xiangyi Meng3
1ATP Clinical Research, Costa Mesa, CA, USA; 2University of Miami Miller School of Medicine, Miami, FL, USA; 3Novartis Pharmaceuticals Corporation, East Hanover, NJ, USA

SUMMARY:

Introduction: Alzheimer's disease (AD) is associated with progressive cognitive decline. The Alzheimer's Disease Assessment Scale–cognitive subscale (ADAS-cog) is commonly used in clinical trials to assess the symptomatic efficacy of cholinesterase inhibitors, e.g. rivastigmine, on cognition in patients with AD. The OPtimising Transdermal Exelon In Mild-to-moderate Alzheimer's disease (OPTIMA) study suggested that the higher-dose 13.3 mg/24 h rivastigmine patch is associated with greater cognitive efficacy than 9.5 mg/24 h patch, measured using the ADAS-cog. The objective of the current analysis was to further investigate the cognitive efficacy of 13.3 mg/24 h rivastigmine patch on the 11 individual items of the ADAS-cog in patients with AD.
Methods: This was an exploratory analysis of the 48-week, randomized, double-blind (DB) OPTIMA study, which compared the efficacy, safety and tolerability of 13.3 mg/24 h versus 9.5 mg/24 h rivastigmine patch. Patients with mild-to-moderate AD who met pre-defined criteria for functional and cognitive decline during open-label treatment with 9.5 mg/24 h patch were randomized in the DB phase. While previous studies have evaluated efficacy at 24 weeks, this study included the change from DB-baseline at Week 48 on the ADAS-cog as a co-primary outcome. In the current analysis, the effect sizes for the change from DB-baseline at Weeks 12, 24 and 48 on the 11 individual ADAS-cog items in patients randomized to receive 13.3 mg/24 h or 9.5 mg/24 h patch were calculated using Cohen's d.
Results: Overall, 280 patients were randomized to 13.3 mg/24 h patch and 287 patients to 9.5 mg/24 h patch in the DB phase. During the 48-week OPTIMA study, ADAS-cog displayed significantly less decline from DB-baseline at Week 24 with 13.3 mg/24 h versus 9.5 mg/24 h patch (p=0.027). A between-group difference of 1.2 points was observed with 13.3 mg/24 h versus 9.5 mg/24 h patch at 48 weeks, but this did not reach statistical significance. At Week 12, 4 of the 11 individual ADAS-cog items displayed an effect size less than zero, indicating numerically less cognitive decline on these items with 13.3 mg/24 h versus 9.5 mg/24 h patch. An effect size less than zero was displayed by 8 ADAS-cog items at Week 24, and 6 items at Week 48. Three items (commands, orientation, and word recognition) displayed numerically less cognitive decline with 13.3 mg/24 h patch compared with 9.5 mg/24 h patch at all time points.
Numerically less decline was observed with 9.5 mg/24 h versus 13.3 mg/24 h patch on 3 items at Week 12 and 2 items at Week 48. For all other items, calculated effect sizes suggested similar efficacy in both treatment groups.
Conclusion: These results indicate that the higher dose (13.3 mg/24 h) rivastigmine patch provides clinically meaningful benefits on key items of the ADAS-cog in patients with AD, particularly in the areas of command following, orientation and word recognition at all time points assessed.

NR11-23
EFFICACY OF THE 13.3 MG/24 H VERSUS 4.6 MG/24 H RIVASTIGMINE PATCH ON GLOBAL FUNCTIONING AND BEHAVIOR IN PATIENTS WITH SEVERE ALZHEIMER'S DISEASE

Lead Author: Martin Rhys Farlow, M.D.
Co-Author(s): Steven Ferris
Monique Somogyi
Xiangyi Meng

SUMMARY:

Background: Treatment options for patients with severe Alzheimer's disease (AD) are limited. Rivastigmine transdermal patch (4.6, 9.5 and 13.3 mg/24 h) is approved in the US for the symptomatic treatment of mild-to-moderate AD. Data suggest that patients with more advanced AD may also benefit from higher-dose rivastigmine treatment. The ACTivities of daily living and cognitION (ACTION) study investigated the efficacy, safety and tolerability of the13.3 mg/24 h versus 4.6 mg/24 h rivastigmine patch in patients with severe AD. Significantly less deterioration from baseline at Week 24 was observed on both primary outcome measures, the severe impairment battery (SIB) and the AD Cooperative Study Activities of Daily living-Severe Impairment Version (ADCS-ADL-SIV). The objective of the current analysis was to investigate the efficacy

of 13.3 mg/24 h rivastigmine patch on secondary measures of global functioning and behavior in the ACTION study.
Methods: ACTION was a 24-week, randomized, double-blind, multicenter evaluation of 13.3 mg/24 h and 4.6 mg/24 h rivastigmine patch in patients with probable AD, and a Mini Mental State Examination score of 3–12 (inclusive). The efficacy of 13.3 mg/24 h versus 4.6 mg/24 h rivastigmine patch on global functioning (ADCS-Clinical Global Impression of Change [ADCS-CGIC]) and behavior (Neuropsychiatric Inventory [NPI-12]) was assessed. Safety and tolerability assessments included reporting of adverse events (AEs) and serious AE (SAEs).
Results: In total, 716 patients were randomized: 356 to 13.3 mg/24 h patch and 360 to 4.6 mg/24 h patch. The between-group difference in the distribution of ADCS-CGIC ratings at Week 24 was statistically significant (p=0.0023). ADCS-CGIC scores indicated that a significantly higher percentage of patients receiving 13.3 mg/24 h compared with 4.6 mg/24 h patch displayed an improvement in clinical status from baseline at Week 24 (p=0.0094). At Week 24, 24.6% of the 13.3 mg/24 h patch group showed minimal, moderate or marked improvement, compared with 16.2% of the 4.6 mg/24 h patch group. A trend toward numerically less decline from baseline at Week 24 was observed with 13.3 mg/24 h compared with 4.6 mg/24 h patch on the NPI-12; however, between-group difference did not reach statistical significance (difference in least square means, -1.6; p=0.1437). The incidence of AEs and SAEs was similar between the 13.3 mg/24 h and 4.6 mg/24 h patch groups (AEs, 74.6% and 73.3%; SAEs, 14.9% and 13.6%).
Conclusion: The 13.3 mg/24 h rivastigmine patch showed significant benefit over 4.6 mg/24 h patch on global functioning at 24 weeks in this patient population. These data suggest that symptomatic treatment with the higher-dose rivastigmine patch may be associated with clinical benefits in patients with severe AD.
The ACTION study, author's travel expenses and poster development were supported by Novartis Pharmaceuticals Corporation.

NR11-24
EPIGENETIC MECHANISMS REGULATE REELIN (RELN) AND GLUTAMIC ACID DECARBOXYLASE 67 (GAD67) EXPRESSION IN AUTISM SPECTRUM DISORDER

Lead Author: Adrian Zhubi, M.D.
Co-Author(s): Ying Chen MD, Alessandro Guidotti MD ,Dennis R Grayson PhD

SUMMARY:

Autism Spectrum Disorders (ASD) are a group of neurodevelopmental disorders involving symptoms related to social interactions, communication and repetitive behaviors. In addition to genetic susceptibility, epigenetic mechanisms, which include DNA methylation and histone modifications, are thought to be important in the etiopathogenesis of ASD. Several lines of evidence implicate abnormalities in the expression of multiple mRNAs including reelin (RELN) glutamic acid decarboxylase 65 and 67 (GAD65, 67), and other mRNAs present in GABAergic neurons of post-mortem autism brain tissue.
The goal of our study is to explore the epigenetic mechanisms underlying the regulation of GAD67 and RELN, specifically focusing on the binding of: 1) DNA methyltransferase 1 (DNMT1) and 2) methyl CpG binding protein-2 (MeCP2) to the promoters of these two genes. For this purpose we used human post-mortem brain samples from the Harvard Brain Tissue Resource Center and the Autism Speaks' -Autism Tissue Program composed of 12 control subjects (CON) and 12 autistic patients (AP). TRIzol protocol was used for the extraction of mRNA from frontal cortex and cerebellum. Then, mRNA was reversely transcribed to cDNA and quantified with real time qPCR using specific primers for DNMT1, MeCP2, RELN and GAD67. Values were corrected for housekeeping gene expression (G3PDH, ?-actin and neuron specific enolase mRNAs). Measurements of DNMT1 and MeCP2 binding to the RELN (-220 ? +70 bp) and GAD67 promoters (-43 ? +121 bp) were performed using chromatin immunoprecipitation (ChIP) followed by real time qPCR to quantify the amounts of precipitated DNA which were expressed as a percent of input DNA.
Results showed that in the cerebellum of AP, MeCP2 protein binding to RELN (t-test, p= 0.03) and GAD67 (t-test, p=0.04) promoters was significantly upregulated when compared to CON and this binding was positively correlated with MeCP2 mRNA level .In addition, increased binding of MeCP2 protein to RELN promoter was associated with decreased expression of RELN mRNA (Pearson's r =-0.784, p=0.001).
In frontal cortex of AP, we found a significant increase in binding of MeCP2 protein to RELN (t-test, p<0.01) and GAD67 (t-test, p<0.01) promoters when compared to CON. In the same samples, DNMT1 protein binding to RELN (t-test, p=0.03) and GAD67 (t-test, p=0.01) promoters was significantly upregulated in AP when compared to CON .Moreover this binding was negatively correlated with level of expression of RELN mRNA (Pearson's r= -0.597,p=0.01) and GAD67 mRNA(Pearson's r=-0.453,p=0.04). In addition mRNA expression of RELN (t-test, p=0.03) and GAD67 (t-test, p=0.02) were significantly down regulated in AP when compared with CON.
In conclusion, the altered levels of RELN and GAD67 mRNAs are associated with increased binding of MeCP2 and DNMT1 to the corresponding promoters in AP compared to CON, suggesting that DNA methylation mechanisms may be important for the etiopathogenesis of ASD.

NR11-25
EVALUATION OF PSYCHOTROPIC MEDICATIONS USING RECOVERY ORIENTED MENTAL HEALTH OUTCOMES: RISPERIDONE LONG ACTING INJECTIONS

Lead Author: Christopher John McKinney, Ph.D.
Co-Author(s): Wesley Williams, PhD; Cheryl Clark, MD; & Susan Hahan, PharmD

SUMMARY:

Background: Though many studies have reviewed the effect of Risperidone Long Acting Injection (RLAI) in regards to reducing symptoms associated with schizophrenia and schizoaf-

fective disorder, prior studies have not looked into the effect on RLAI on recovery-related outcomes. The current studies looks at how RLAI treatment affected the overall progression of recovery as measured by the Recovery Markers Inventory (RMI; Clinician Perspective) and the Consumer Recovery Measure (CRM; Consumer Perspective). Methods: The study utilized archival data retrieved from the electronic medical record databases at the Mental Health Center of Denver. Consumers were required to have a primary diagnosis of schizophrenia or schizoaffective disorder, with at least three months of treatment by RLAI (6 bi-weekly injections), and at least three outcome measures in each of three time periods: Pre-RLAI treatment, RLAI Treatment, and Post-RLAI treatment. Participants: 176 consumers were identified as eligible for inclusion in the study in regards to the RMI outcome, with 58 eligible in regards to the CRM. The total pool of consumers consisted of a diverse mix of genders, races, and age. Analysis: Provided the nested nature of the data, analysis was performed using a multilevel within-subjects model, aka Hierarchical Linear Model (HLM). All model estimates were calculated in R v2.10.2, within the nlme and lme4 packages available through the CRAN website. A three level model was employed with measures nested within treatment time periods which were nested within consumers. Results: Upon review of the analysis, the primary finding was that the RLAI consumers had a significant mean increase in their overall recovery supportive factors, as measured by the RMI, in the RLAI treatment period as compared to the pre-RLAI treatment period. Further, the size of the mean shift was mediated by the consumer's level of adherence to the RLAI treatment regimen, such that the size decreased with decreasing adherence to the RLAI treatment. Lastly, it was found that all gains made in the consumer's recovery supportive factors, were sustained after RLAI treatment ended (Post-RLAI period). Conclusions: There appears to be an overall increase in the RMI scores during the RLAI treatment period, where the size of the effect is positively correlated with the level of adherence to RLAI treatments. Further, all improvements in the recovery supportive factors during the RLAI treatment period are sustained in the post-RLAI treatment period, indicating that consumers retain the level of recovery acquired during the treatment period. Since adherence is strongly associated with the outcomes, it appeared that RLAI may further be associated with the promotion of service and treatment participation.

NR11-26
EXPERIENCE OF AGOMELATINE IN TREATING DEPRESSION IN A COMMUNITY PSYCHIATRIC OUTPATIENT SETTING

Lead Author: Hellme Najim, M.D., M.R.C.

SUMMARY:

Background
Agomelatine is an antidepressant of novel mode of action. It is efficacy and tolerability was tested in an open labile study in a community psychiatric out patient setting.

Methods:
Patients who attended outpatient clinic covering Billericay and Wickford which semirural affluent South of England were tried on agomelatine if they failed to respond to two antidepressants one is SSRI and the other is SNRI, or suffered from side effects with other antidepressants.for a period of nine months. They were reviewed regularly every 6-12 weeks. Liver function tests were done before start, afrer, 6,12, 24 weeks. Results were input of Excel Microsoft sheet and analysed.

Results:
48 patients were recruited.
20 malea, 29 females.
5 patients stopped after a few days to a few weeks because of side effects.
10 patients stopped after a few weeks because of lack of effects.
6 patients needed to be topped up to 50mg.
6 patients needed mirtazapine 15mg as an add on treatment.
No patient developed abnormal liver function test.
No patient switched into manic episode.

Discussion
Agomelatine has its place as antidepressant. It is not used as a first line antidepressant.
This study has shown that patients response about 30% had to stop it because of lack of efficacy and side effects. Patients who continued on it didn't develop abnormal liver enzymes.24 % needed either to go to 50mg to fully respond or to add mirtazapine.

Conclusion:
Current antidepressants are still lacking the efficacy in all types of depression. Agomelatine has got its place to treat some patients who don't respond to first line antidepressants, but it still have its side effects and some patients don't respond to it.

NR11-27

EXTENDED GENETIC EFFECTS OF ADH CLUSTER GENES ON THE RISK OF ALCOHOL DEPENDENCE: FROM GWAS TO REPLICATION

Lead Author: Ihn-Geun Choi, M.D., Ph.D.
Co-Author(s): Sohyun Lee, Byung Lae Park, Jee Wook Kim, Hyoung Doo Shin

SUMMARY:

Alcohol dependence (AD) is a multifactorial and polygenic disorder involving complex gene-to-gene and gene-to-environment interactions. Several genome-wide association studies (GWASs) have reported numerous risk factors for AD, but replication results following these studies have been controversial. To identify new candidate genes, the present study used GWAS and replication studies in a Korean cohort with AD. Genome-wide association analysis revealed that two chromosome regions on chromosome 4q22-q23 (alcohol dehydrogenase (ADH) gene cluster, including ADH5, ADH4, ADH6, ADH1A, ADH1B, and ADH7) and Chromosome 12q24 (aldehyde dehydrogenase 2 - ALDH2) showed multiple association signals to the risk of AD. To investigate detailed genetic effects of these ADH genes on AD, a follow-up

study of the ADH gene cluster on 4q22-q23 was performed. A total of 90 SNPs, including ADH1B rs1229984 (H47R), were genotyped in an additional 975 Korean subjects. In case-control analysis, ADH1B rs1229984 (H47R) showed the most significant association with the risk of AD ($p = 2.63 \times 10\text{-}21$, OR = 2.35). Moreover, subsequent conditional analyses revealed that all positive associations of other ADH genes in the cluster disappeared, which suggested that ADH1B rs1229984 (H47R) might be the sole functional genetic marker across the ADH gene cluster. Our findings can provide additional information on the ADH gene cluster regarding the risk of AD, as well as a new and important insight into the genetic factors associated with AD.

NR11-28
HOW IMPORTANT IS VITAMIN D IN DEPRESSION? LOW VITAMIN D LEVELS IN A SUBURBAN PRIVATE PSYCHIATRIC PRACTICE

Lead Author: Jill Joyce, M.D.

SUMMARY:

It has become apparent that Vitamin D levels in much of the population have dropped. This is an attempt to evaluate Vitamin D levels in a suburban private psychiatric practice. The role of Vitamin D in depression may be larger than presently thought.
All patients in a suburban private psychiatric practice were asked to obtain serum Vitamin D levels. The age range was from 21-95 years old. The diagnoses ranged from Anxiety to Depression to Bipolar Disorder, Psychosis and substance abuse issues. A total of 194 patients were tested. Of these, 100 patients, or 51%, had Vitamin D levels below 30 ng/ml. 43 patients, or 22%, had Vitamin D levels under 20 ng/ml, several under 10 ng/ml. Adequate levels are felt to be 30-90 ng/ml, with the Vitamin D Council recommending patients test in the 40-60 ng/ml range.
A large number, over half, of patients were found to be Vitamin D deficient. It is becoming more apparent that Vitamin D needs to be more fully assessed and studied in the psychiatric population.

NR11-29
HYPOTHESIS AND EVIDENCE OF "SWITCH" OF GXE INTERACTION: 5-HTTLPR ABUSE INTERACTION AND VARIOUS OUTCOMES AMONG PSYCHIATRIC INPATIENTS WITH DEPRESSION

Lead Author: Gen Shinozaki, M.D.
Co-Author(s): Magdalena Romanowicz, MD(3), James Rundell, MD(4), David Mrazek, MD, FRCPsych(5), Simon Kung, MD(5)
(3)Department of Psychiatry, Stanford University, Stanford, CA,
(4)Tamber, Plymouth MN
(5)Department of Psychiatry and Psychology, Mayo Clinic, Rochester, MN,

SUMMARY:

Background: The serotonin transporter gene promoter polymorphism (5HTTLPR) and child abuse have been associated with an increased risk for depression. We previously reported the long/long of 5HTTLPR to be associated with higher resting heart rate (HR) among patients with child abuse history than those without, whereas the short carriers did not have such differences. We also reported that Caucasian females showed similar trends with higher body mass index (BMI) and higher prevalence of diabetes mellitus (DM) among the long/long group with child abuse history. Lastly our recent study extended our investigation to suicide attempt history, which showed consistent result.
Methods: We propose a hypothesis of "switch" of gene-environment interaction among depressed psychiatric inpatients, distinct from such phenomena observed among general population. Evidence to support this hypothesis will be presented from our data as well as available literature.
Results: There was a statistically significant evidence of interaction between 5HTTLPR and child abuse history, associated with resting HR and suicide attempt history. BMI and prevalence of DM showed trend of association as well among Caucasian female subgroup in a same direction. For example, among the long/long group, patients with child abuse history had a higher suicide attempt rate (59.8% versus 32.8%, p=0.0015) than patients without.
Conclusions: An interaction between 5HTTLPR and child abuse influenced physiologic, metabolic/endocrinological, and psychiatric profiles of depressed inpatients. Contrary to the widely recognized "reactivity" associated with the short allele of 5HTTLPR, our depressed psychiatric inpatients with the l/l genotype and child abuse history showed significantly more "reactivity" than short carriers with child abuse.
References
1. Shinozaki, G., Romanowicz, M., Kung, S., Mrazek, D.A., 2011. A new interaction between SLC6A4 variation and child abuse is associated with resting heart rate. Depress Anxiety 28, 227-233.
2. Shinozaki, G., Romanowicz, M., Kung, S., Rundell, J., Mrazek, D., 2012. Investigation of serotonin transporter gene (SLC6A4) by child abuse history interaction with body mass index and diabetes mellitus of White female depressed psychiatric inpatients. Psychiatr Genet 22, 109-114.

NR11-30
IMPAIRMENTS IN EXECUTIVE CONTROL IN PSYCHOPATHS

Lead Author: Menahem I. Krakowski, M.D., Ph.D.
Co-Author(s): Karen Nolan; Mathew Hoptman; Constance Shope, John Foxe, Phillip De Sanctis, Wylie Glenn, Pal Czobor.

SUMMARY:

Background: Psychopathy is characterized by impulsive and poorly planned behavior. This deficit may represent an impaired response inhibition system, as well as an inability to shift set.
Methods: Participants were 23 psychopaths (P's), (Hare Psychopathy Checklist-SV), and 22 matched healthy controls (HC's). We recorded behavioral responses during a Go/No Go Task, where subjects had to withhold response to

repeated stimuli. They were also administered a Task Switching paradigm, which involved switches between a letter and a number categorization task. The irrelevant dimension could either indicate the same task as the relevant dimension, i.e., congruent condition, or a different task, i.e., incongruent condition.
Results: P's made more commission errors than HC's on the Go/No Go Task (F=5.8, df=44, p=.02). On the Task Switching they had marked difficulties with incongruency. Total percent error (omission and commission) was 12.4% for HC's and 37.3% for P's (F=10.27, p=.003) for incongruent switch trials; 10.7% for HC's and 36.5% for P's (F=10.7, p=.002) for incongruent repeat trials. There were no differences between the two groups for the congruent condition.
Conclusions: Psychopathy appears to be associated with specific deficits in executive function, including response inhibition and task switching. This may indicate the presence of abnormal neural processing during suppression of inappropriate responses as well as difficulties in set shifting.

NR11-31
INCREASED INSULIN-LIKE GROWTH FACTOR-1 IN MANIC PATIENTS WITH BIPOLAR I DISORDER

Lead Author: Yong-Ku Kim, M.D., Ph.D.
Co-Author(s): Kyoung-Sae Na,2) Jung-A Hwang,1) Heon-Jeong Lee,3) Sang-Woo Han, 2) Bun-Hee Lee,4) Han-Yong Jung 2)

1) Department of Psychiatry, Korea University Ansan Hospital, Ansan, Republic of Korea
2) Department of Psychiatry, Soonchunhyang University, Republic of Korea
3) Department of Psychiatry, Korea University Anam Hospital, Republic of Korea
4) Department of Psychiatry, KARF Hospital, the Korean Alcohol Research Foundation, Republic of Korea

SUMMARY:
Objectives: Neurotrophic factors exert substantial effects on the central nervous system. The aim of this study was to investigate role of insulin-like growth factor-1 (IGF-1) and beta-nerve growth factor (beta-NGF) as well as brain-derived neurotrophic factor (BDNF), which is the most widely investigated neurotrophic factor, in bipolar disorder.
Methods: We measured peripheral production of IGF-1, beta-NGF, and BDNF in 123 manic patients with bipolar I disorder and 145 healthy controls. Levels of the neurotrophic factors were compared between the two groups at baseline. Neurotrophic factors were also compared before and after 6-week of treatment in patients with bipolar I disorder. Severity of manic symptoms was measured by Young Manic Rating Scale (YMRS). Correlational analysis was conducted to examine association among neurotrophic factors and severity of manic symptoms.
Results: IGF-1 was significantly higher in patients with bipolar I disorder than healthy controls. There were no changes in neurotrophic factors during 6-week treatment. IGF-1 and NGF-beta had negative correlation in healthy controls, but not in patients with bipolar I disorder. YMRS was not associated with nay of neurotrophic factors.
Conclusion: Elevated level of IGF-1 may be a trait marker for bipolar disorder. Further studies are needed to comprehensively investigate role of IGF-1 in relation with other neurotrophic factors and biological markers in bipolar disorder.

NR11-32
INFLUENCE OF ALZHEIMER'S DISEASE SEVERITY ON THE COGNITIVE EFFICACY OF HIGHER-DOSE 13.3 MG/24 H RIVASTIGMINE PATCH

Lead Author: Monique Somogyi, M.D.
Co-Author(s): George Grossberg MD
Xiangyi Meng PHD,
Carl Sadowsky MD

SUMMARY:
Introduction: Rivastigmine, a cholinesterase inhibitor, demonstrates dose-dependent efficacy in patients with mild-to-moderate Alzheimer's disease (AD). Data suggest rivastigmine may also benefit patients at more advanced disease stages, when cholinergic deficits are more pronounced. The 48-week, double-blind (DB) OPtimising Transdermal Exelon In Mild-to-moderate Alzheimer's disease (OPTIMA) study compared 13.3 mg/24 h and 9.5 mg/24 h rivastigmine transdermal patch in patients with AD demonstrating functional and cognitive decline on the 9.5 mg/24 h patch. The AD Assessment Scale–cognitive subscale (ADAS-cog) was a co-primary outcome measure. The objective of the current analysis was to evaluate the impact of disease severity on the cognitive efficacy of 13.3 mg/24 h versus 9.5 mg/24 h patch in the OPTIMA study.
Methods: Male or female patients, aged 50–80 years, with a diagnosis of mild-to-moderate AD were enrolled into the 24–48-week initial open-label (IOL) phase of the OPTIMA study. Patients meeting pre-specified functional and cognitive decline criteria during the IOL phase were randomized to 13.3 mg/24 h or 9.5 mg/24 h patch in the 48-week, DB phase. Factor analysis of the individual ADAS-cog items was used to define two new ADAS-cog domains, termed memory and language. The change from DB-baseline at Weeks 12, 24 and 48 on these domains was calculated and analysed according to the patient's disease severity at DB-baseline (mild AD, Mini-Mental State Examination [MMSE] score ?19; moderate AD, MMSE score 10–18; and severe AD, MMSE score ?9). Between-group differences were calculated and compared using effect sizes (Cohen's d).
Results: Of the 567 patients that entered the DB phase, 280 were randomized to 13.3 mg/24 h patch and 287 patients to 9.5 mg/24 h patch. The 13.3 mg/24 h patch group displayed numerically less decline than the 9.5 mg/24 h patch group on the total ADAS-cog score at all time points, reaching significance at Week 24 (p=0.027). Numerically less cognitive decline was displayed with 13.3 mg/24 h compared with 9.5 mg/24 h patch on the ADAS-cog memory domain at all time points and disease severities (Week 48 effect size: mild AD, -0.116; moderate AD, -0.192; severe AD, -0.035). On the language domain, calculated effect sizes were -0.118, -0.185 and 0.182 at Weeks 12, 24 and 48, respectively, for patients

with mild AD, and 0.043, 0.106, -0.074, respectively, for patients with moderate AD. In patients with severe AD, 13.3 mg/24 h patch displayed numerically less cognitive decline than 9.5 mg/24 h patch at all time points (effect size: Week 12, -0.163; Week 24, -0.029; Week 48, -0.056).
Conclusion: These results indicate a trend towards greater efficacy of 13.3 mg/24 h compared with 9.5 mg/24 h rivastigmine patch on memory in patients with mild, moderate and severe AD, and on language in patients with severe AD.

NR11-33
INVESTIGATION OF EPISTATIC INTERACTIONS BETWEEN DAOA AND 5HTR1A VARIANTS ON CLINICAL OUTCOMES IN PATIENTS WITH SCHIZOPHRENIA

Lead Author: Tae-Youn Jun

SUMMARY:

Introduction : The aim of the present work is to investigate the existence of possible epistatic interactions between rs10042486 within 5HTR1A and rs7139958 within DAOA influencing PANSS positive subscale improvement scores and other clinical variables in a sample of 221 Korean SCZ patients treated with different antipsychotics.
Methods : The main outcome measure of the present study was the investigation of possible epistatic interactions between rs10042486 within 5HTR1A and rs7139958 within DAOA on PANSS positive subscale improvement scores. A multiple regression model was employed to investigate the existence of possible epistatic interactions between the two genotypes and clinical and socio-demographical variables included in the present study. Clinical improvements on PANSS total, positive, negative and general scores were calculated from baseline (admission) to the endpoint (discharge).
Results : No significant epistatic interaction between rs10042486 and rs7139958 on PANSS positive subscale improvement scores was observed (?=-0.02, p=0.93). Furthermore, we found that the independent associations observed between rs10042486, rs7139958 and PANSS positive subscale improvement scores were no longer significant when they were included in the multiple regression model (?=-0.20, p=0.25 and ?=0.17, p=0.34).
Conclusion : In conclusion our findings preliminary suggest that epistatic interactions may not exist between rs10042486 within 5HTR1A and rs7139958 within DAOA and clinical outcomes in SCZ patients treated with different antipsychotics.

NR11-34
LONG-TERM USE OF ANTIDEPRESSANT AND THE RISK OF TYPE 2 DIABETES MELLITUS: A POPULATION-BASED NESTED CASE-CONTROL STUDY IN TAIWAN

Lead Author: Chi-Shin Wu, M.D., M.Sc.
Co-Author(s): Susan Shur-Fen Gau, MD PhD
Mei-Shu Lai, MD PhD

SUMMARY:

Aims
This study aimed to assess the association between long-term antidepressant use and the risk of incident diabetes mellitus in general population.

Method
A nested matched case-control study was conducted in a nationwide representative cohort enrolled in the National Health Insurance Research Database in Taiwan from 1998 to 2009. A total of 47,885 cases were identified with type 2 diabetes mellitus at least three times in ambulatory claims within one year or with one record in inpatient claims. They were individually matched with two comparison subjects by age, gender, and index date. The cumulative period and average daily dose of antidepressant use were measured. A latent period of one year before the date of clinical diagnosis of diabetes was subtracted in the assessment of exposure to avoid potential bias due to changes of mood symptoms or antidepressant patterns in undiagnosed diabetes. A conditional logistic regression model was used to determine the diabetes risk of long-term antidepressant use. Sensitivity analyses using different latent periods (zero, two, and three years) were conducted to test for the robustness of the results.

Results
Compared with nonusers, patients with cumulative antidepressant use more than 2 years had an increased risk of diabetes (adjusted odds ratio=1.20; 95% CI=1.05-1.37). The diabetes risk with long-term antidepressant use (duration ?2 years) was strongest among the young adults aged 44 years or less (adjusted odds ratio=2.32; 95% CI=1.42-3.79). Moreover, increasing average daily dose (> 0.5 defined daily dose) or use of selective serotonin reuptake inhibitors or serotonin 2 antagonist and reuptake inhibitors was associated with increased diabetes risk.

Conclusions
The findings suggest that long-term antidepressant use may be associated with an increased risk of type 2 diabetes mellitus, especially for younger patients, users of high average daily dose, selective serotonin reuptake inhibitors, or serotonin 2 antagonist and reuptake inhibitors.

NR11-35
MATHEMATICAL MODELING OF PALIPERIDONE PLASMA CONCENTRATIONS: A VISUAL GUIDE TO EXPECTED BLOOD LEVELS IN CLINICAL PRACTICE SCENARIOS

Lead Author: William H. Wilson, M.D.
Co-Author(s): Peter Dorson, PharmD, Janssen Pharmaceuticals, Dripping Springs, Texas; Mahesh Samtani, PhD, Janssen Pharmaceutical Companies of Johnson & Johnson, Raritan, New Jersey; Bart Remmerie, Chem. Eng, Janssen Research & Development, Beerse, Belgium; Larry Martinez, PhD, Janssen Scientific Affairs, LLC, Aurora, Colorado.

SUMMARY:

Introduction: Mathematical pharmacokinetic (PK) modeling

allows for the estimation of plasma drug levels in real-world scenarios. Previous modeling has been performed with risperidone long-acting injection to help clinicians understand the impact of dosing changes, missed or late doses, and treatment discontinuation (Wilson, J Psych Pract 2004). Paliperidone palmitate (PP), a once monthly, long acting injectable antipsychotic formulation, can be useful in patients with adherence problems. The formulation of PP is unique compared to other conventional depot antipsychotics and atypical long-acting antipsychotic agents. For example, there are half-life differences across the 5 available doses and it has an initiation dosage regimen that does not require oral antipsychotic overlap. The PK properties of PP as compared to orally administered paliperidone are discussed in the prescribing information but are challenging to understand without graphical representations.
Objective: Application of mathematical modeling of population based data for the development of an internet-based and an iPhone/iPad enabled tool that allows for the visualization of paliperidone plasma levels in real-world clinical scenarios of PP treatment including initiation, timing of injection, dosages, and site of injection.
Methods: Population based single dose PK data following PP administration were used to estimate and model plasma concentrations that can be expected in a typical patient in common clinical scenarios including during initiation and after longer term treatment, medication switching, and renal insufficiency. Modeling results were validated against the full PK models that were developed and published by Samtani (Samtani, et al. Clin Pharmacokinet 2009). Modeling outputs and findings were used to develop an internet-based application that can be used on a PC and an iPad/iPhone.
Results: Mathematical modeling was shown to effectively estimate paliperidone plasma drug concentrations under a variety of clinical PP treatment scenarios. An educational tool 'The Educational Dose Illustrator' was further developed as an interactive web-based tool (www.educationaldoseillustrator.com) that allows clinicians to visualize paliperidone plasma concentrations over time in order to gain an appreciation for how the unique PK properties of paliperidone palmitate produce predicable plasma drug levels that are resistant to fluctuations in the peaks and troughs.
Discussion/Conclusions: The Educational Dose Illustrator (educationaldoseillustrator.com) provides an educational guide and allows clinicians to visualize estimated paliperidone plasma drug levels that may occur in real-world clinical scenarios such as missed treatment administration, changes in dose and/or timing, transition from orally administered paliperidone to injectable paliperidone palmitate, and in the case of medication switching, or in patients with renal insufficiency.
Supported by Janssen Medical Affairs, LLC

NR11-36
MILD COGNITIVE IMPAIRMENT: EFFICACY AND SAFETY LONG-TERM TREATMENT WITH GALANTAMINE

Lead Author: Julio César Zarra, M.D.
Co-Author(s): María Belén Grecco, Luisa Schmidt

SUMMARY:
INTRODUCTION: To evaluate the efficacy of galantamine in patients with Mild Cognitive Impairment. So there is a possible benefit in the deficit in executive and cognitive cerebral function (cholinergic system) with treatment with Galantamine.
HYPOTHESIS: galantamine is a reversible, competitive cholinesterase inhibitor that also allosterically modulates nicotine acetylcholine receptors. Cholinesterase inhibitors inhibit (block) the action of acetylcholinesterase, the enzyme responsible for the destruction of acetylcholine. Acetylcholine is one of several neurotransmitters in the brain, chemicals that nerve cells use to communicate with one another. Reduced levels of acetylcholine in the brain are believed to be responsible for some of the symptoms of Alzheimer's disease. By blocking the enzyme that destroys acetylcholine, galantamine increases the concentration of acetylcholine in the brain, and this increase is believed to be responsible for the improvement in thinking seen with galantamine. To evaluate the efficacy, safety and tolerability of galantamine in long-term in Mild Cognitive Impairment.
METHODS: a multicenter, open label , prospective, observational study enrolled 1088 patients, more 55 years old with Mild Neurocognitive Disorder (DSM IV criteria), during 36 months of treatment with galantamine 16 mg./day. (Extended release capsules: 16 mg.)
Assessments included the MMSE, CDR, ADAS-GOG, Trail making test, Raven Test, GO-NO-GO test, FAQ, Global Deterioration Scale, GCI and UKU scale of adverse effects.
RESULTS: a total 1088 outpatients were treated with 16 mg./day galantamine during 36 months, the therapeutic response evaluated with CDR, MMSE and the tests and scales of function cognitive measuring, GCI and UKU scale of adverse effects, comparing the baseline to final scores.
CONCLUSIÓN: Mild Cognitive Disorder is being examined, so there isn't enought treatment for this. A long-term treatment (36 months) galantamine improves cognition and global function, behavioural symptoms and the general state well being of patients with Mild cognitive Disorder. With incidence of adverse effects not significant and a very good profile of safety, the final results of the study suggest that galantamine may be particularly appropiate in the Mild Cognitive Disorder.
DISCUSSION: We can recognize the Mild Cognitive Disorder as a clue which reveal a first therapeutic instance probably in efficacy in this cruel evolution towards dementia.

NR11-37
MODULATION OF GABAERGIC ACTIVITY VIA 5-HT3 RECEPTOR ANTAGONISM IS INVOLVED IN VORTIOXETINE'S (LU AA21004) IN VIVO PHARMACODYNAMIC PROFILE

Lead Author: Arne Mørk, Ph.D.
Co-Author(s): Jens-Jakob Karlsson1, Connie Sánchez2
1Lundbeck Research DK, H. Lundbeck A/S, DK-2500 Copenhagen-Valby, Denmark, and 2Lundbeck Research USA, Paramus, NJ 07652, USA

SUMMARY:
Objective: Vortioxetine (Lu AA21004) is an investigational antidepressant working through several serotonergic tar-

gets. Vortioxetine functions as a 5-HT3, 5-HT7 and 5-HT1D receptor antagonist, 5-HT1B receptor partial agonist, 5-HT1A receptor agonist and inhibitor of the 5-HT transporter in vitro. In vivo vortioxetine increases extracellular levels of serotonin (5-HT), dopamine and noradrenaline in the rat brain1. Vortioxetine has high affinity for the 5-HT3 receptor (Ki=1.1 and 3.7 nM for rat and human 5-HT3 receptor, respectively). In the forebrain the 5-HT3 receptor is located on GABAergic interneurons, on axons and on nerve terminals. Here we investigated mechanisms by which vortioxetine modulates 5-HT and ?-aminobutyric acid (GABA) efflux in the rat forebrain.
Methods: Extracellular levels of neurotransmitters were studied in the medial prefrontal cortex (mPFC) of freely moving male Sprague Dawley rats. 5-HT3 receptor activity was modulated by local infusion of the 5-HT3 receptor agonist SR57227A or the 5-HT3 receptor antagonist ondansetron. The selective 5-HT reuptake inhibitor (SSRI), citalopram was used to increase extracellular 5-HT. The GABAA receptor was blocked by infusion of the receptor antagonist bicuculline. Vortioxetine was administered subcutaneously (sc). Dialysates were sampled at 30-min intervals and analysed for GABA and 5-HT using HPLC with tandem mass spectrometry and electrochemical detection, respectively.
Results: Local infusion of SR57227A (25 µM) into the mPFC increased extracellular GABA levels by 40-50%, indicating activation of 5-HT3 receptors located on GABAergic interneurons. Local infusion of citalopram (1 µM) significantly increased extracellular levels of 5-HT by 300-400%. The effect of citalopram on 5-HT levels was potentiated by pretreatment with ondansetron (1 µM), suggesting that blockade of 5-HT3 receptors reduced an inhibitory GABAergic effect on 5-HT release. This was supported by the observation that pretreatment with bicuculline (10 µM) also potentiated citalopram-induced increases in extracellular 5-HT levels. Pretreatment with vortioxetine (2.5 mg/kg sc) inhibited SR57227A-induced increases in extracellular levels of GABA.
Conclusions: Disinhibition of GABAergic interneurons, which control 5-HT release through 5-HT3 receptor antagonism may explain the previously reported potentiation of SSRI-induced increases in 5-HT levels after coadministration of citalopram and the 5-HT3 receptor antagonist ondansetron.1 The 5-HT3 receptor antagonism of vortioxetine may also be involved in its modulation of extracellular levels of 5-HT and possibly other neurotransmitters in the brain. Thus, vortioxetine displays a unique pharmacological profile by affecting several serotonergic targets including 5-HT3 receptors located on GABAergic neurons. This multimodal action may translate into distinct clinical effects in the treatment of major depressive disorder.
1. Mørk et al. J Pharmacol Exp Ther 340: 666-675, 2012

NR11-38
NEUROCOGNITIVE FUNCTIONING AND AWARENESS OF ILLNESS IN SCHIZOPHRENIA: BASELINE CORRELATIONS AND LONG-TERM TREATMENT OUTCOMES

Lead Author: Cynthia Siu, Ph.D.
Co-Author(s): Philip Harvey;
Josephine Cucchiaro;
Andrei Pikalov;
Antony Loebel

SUMMARY:
Objective: The aim of this analysis was to evaluate the relationship between illness awareness and the ability to perform cognitive tests in a double-blind, controlled clinical study. The extent to which treatment-related improvement in awareness was related to improvement in cognition and functional capacity was also examined.
Methods: Clinically unstable patients with schizophrenia (N=488) were randomized to once-daily treatment with lurasidone 80 mg (LUR 80), lurasidone 160 mg (LUR 160), the active control quetiapine XR 600 mg (QXR) or placebo (PBO). Subjects who completed the initial 6-week trial were eligible to enroll in the double-blind extension study, involving continued treatment with flexible once-daily doses of LUR (40-160 mg; N=151) or QXR (200-800 mg; N=85). Subjects initially treated with placebo were started on flexible once daily doses of LUR (40-160 mg; N=56). Cognitive performance was examined with the CogState battery and functional capacity was assessed with the UPSA-B. Impairment of insight was assessed by PANSS item G12 “lack of judgment and insight” at baseline and at each of the post-randomization visits.
Results: Neurocognitive testing was performed on 481 patients. Of these, 214 patients (45%) failed the prespecified evaluability criteria. The remaining 267 (55%) patients provided evaluable neurocognitive scores at both the baseline and week 6 assessments. Compared to the evaluable sample, we found the non-evaluable sample in the initial 6-week trial had a significantly higher proportion of acutely psychotic patients and a lower level of insight. PANSS Insight (G12) scores were significantly improved for LUR160, LUR80 and QXR groups compared to placebo after 6 weeks. Sustained improvement in insight at week-32 was, however, significantly greater in subjects treated with lurasidone compared with quetiapine XR. Better insight at baseline predicted an increased likelihood for completion of testing and obtaining evaluable scores ($p<=0.002$). PANSS Insight item scores were significantly improved in the LUR160, LUR80 and QXR groups compared to placebo. Increase insight during the acute phase was a significant mediator for the effect of LUR160 (vs. placebo) on the neurocognitive composite score ($p<0.05$), UPSA-B total score ($p<0.05$), and the domain scores for verbal learning ($p<0.05$) and social cognition ($p<0.05$). Improved insight during the double-blind extension phase was associated with better cognitive functioning and UPSA-B total change score ($p<0.05$).
Conclusion: Level of insight in schizophrenia predicted the ability to validly complete cognitive assessments. Insight was significantly improved for LUR160, LUR80 and QXR groups compared to placebo after 6 weeks. Sustained improvement in insight at week-32 was, however, significantly greater in subjects treated with lurasidone compared with quetiapine XR. Gains in insight predicted improvements in cognitive functioning and performance-based measures of functional capacity.

NR11-39
OLD DISEASE, NEW LOOK? A FIRST REPORT

OF PARKINSONISM DUE TO SCURVY, AND REFEEDING-INDUCED WORSENING OF SCURVY

Lead Author: Mark Noble, B.A.
Co-Author(s): Christopher S. Healey, M.D.
L. Danielle Chukwumah, M.D.
Thomas M. Brown, M.D.

SUMMARY:
Scurvy is a famous, rarely seen, and perhaps not fully understood disease. The age of sea-faring gave rise to striking clusters of this disease, and established an image of scurvy as one of weakness, bleeding, pain and often, relentlessly, death. When James Lind published his treatise on sailors and scurvy in 1753, the mortality of scurvy exceeded fifty percent on some long sea voyages. [Tröhler 2005] Such devastating illness is rarely seen today. Yet scurvy still exists. We present a case of scurvy in which classic findings were present, along with Parkinsonism and a course complicated by what appeared to be refeeding-induced worsening. Both Parkinsonism and peripheral symptoms of scurvy precipitated by refeeding are novel findings.

NR11-40

OPEN-LABEL STUDY OF STANDARDIZED CURCUMIN C-3 COMPLEX IN IMPROVING NEGATIVE SYMPTOMS AND COGNITION DEFICITS IN SCHIZOPHRENIA

Lead Author: Hana Raheb, B.A.
Co-Author(s): 2.Simon CHIU MD PhD Lawson Health Research Institute/University of Western Ontario London Ont.
3.Yves Bureau PhD Lawson Health Research Institute/University of Western Ontario London Ont.
4.Zack Cernovsky PhD Lawson Health Research Institute/University of Western Ontario London Ont.
5.Jirui Hou PhD Lawson Health Research Institute/University of Western Ontario London Ont.
6. Hana Raheb B.A Lawson Health Research Institute/University of Western Ontario London Ont.
6. Michael Woodbury MD University of Puerto Rico PR USA

SUMMARY:
Introduction: Despite significant advances in pharmacotherapy for management of schizophrenia, substantial proportion of patients diagnosed as schizophrenia continue to experience negative symptoms and cognitive deficits persist in in Recent evidence suggests epigenetics dysregulation may play significant role in schizophrenia. We hypothesize that curcumin extracted from Curcuma longa , the putative histone deacetylase (HDAC) inhibitor, may improve negative symptoms and cognition in treatment refractory schizophrenia
Method In our open-label 16-week study, we used oral standardized curcumin extract :C-3 complex combined with bioperine (Sabinsa Inc. NJ, USA). Subjects diagnosed as schizophrenia maintained on antipsychotic therapy exhibiting persistent negative symptoms (SANS score > 30) were randomized into two groups: a)4-gm C-3 complex once daily; b)1-gm C-3 complex once daily. PANSS(Positive and Negative Symptoms scale), BPRS (Brief Psychiatric Rating Scale) and HAM-D (Hamilton Depression Rating scale) vitals ,treatment emergent adverse events and VitalSign CNS battery of neurocognitive tests, were administered at regular intervals.
Results: 17 Subjects were recruited at a single center: Puerto Rico (US). The mean age was 39.93 yrs (SD = 11.87 yrs, range: 25-58 yrs. male/female: 12/5); 8 and 7 subjects respectively randomized to the C-3 Complex: 1 gm group and C-3 Complex 4 gm group completed the study. 12 % of total number of study participants (2 /17) dropped out from the study. We found that 16-week treatment with C-3 complex treatment at 1 gm and 4 gm oral dosage significantly improved total PANSS (total score) , and PANSS (general psychopathology subscale) ((paired t-test on mean score change wk 16 - baseline in PANSS total score and PANSS (general psychopathology subscale) : 1 gm: $p < 0.003$ and $p < 0.002$; 4 gm : $P < 0.01$ and $p < 0.016$). Curcumin at 4 gm dosage increased the neurocognitive index (NCI) at 16-week compared to baseline: the augmenting effect almost reached statistical significance (($t = 1.8$, $p = 0.052$, 1-tailed t-test). . Cohen's d statistics effect size estimate favored C-3 complex treatment at 1 gm and 4 gm compared to baseline , for NCI and selected cognitive domains: composite memory, executive function, cognitive flexibility. Cohen'd effect size also favored HAM-D total score and BPRS .Curcumin C-3 complex was well tolerated with no serious adverse events.
Conclusion Our study demonstrates for the first time the positive augmenting effects of the standardized formulation of Curcumin C-3 Complex , combined with bioperine , in improving the negative symptoms and cognitive impairment in schizophrenia. Our results warrant RCT study to corroborate the efficacy of Curcumin C-3 complex to highlight the therapeutic relevance of targeting epigenetics signaling through modulating HDAC , in schizophrenia .
Supported by Stanley Medical Research Institute, MD USA

NR11-41

RCT STUDY OF COGNITION EFFECTS OF ZEMBRIN EXTRACT TARGETING PHOSPHODIESTERASE (PDE-4) IN NORMAL SUBJECTS: IMPLICATIONS FOR ALZHEIMER DEMENTIA.

Lead Author: Hana Raheb, B.A.
Co-Author(s): Simon Chiu MD PhD Lawson Health Research Institute/University of Western Ontario London Ont. Canada
Michael Woodbury MD University of Puerto Rico, San Juan PR (US)
Yves Bureau PhD Lawson Health Research Institute/ University of Western Ontario London Ont. Canada
Zack Cernovsky PhD Lawson Health Research Institute/University of Western Ontario London Ont. Canada
Jirui Hou PhD Lawson Health Research Institute/University of Western Ontario London Ont. Canada
Kristen Terpstra B.A.Lawson Health Research Institute/ University of Western Ontario London Ont. Canada

John Copen MD University of British Columbia BC Canada
Robbie Campbell MD Lawson Health Research Institute/University of Western Ontario London Ont. Canada
Badmeav Vladimir MD PhD Medical Director, PJ Thomas NJ USA
Nigel Gericke MBBS CEO HGH Pharma. Ltd, South Africa

SUMMARY:
Background: There is increased evidence that PDE-4 (Phosphodiesterase subtype-4) plays a crucial role in regulating memory and affective processes . PDE-4 effects are mediated through Phospho-Kinase A (PKA)-cascade requiring phosphorylated cAMP response element binding protein (pCREB) effector mechanism. Clinical studies of lead PDE-4 compounds are lacking. We find that Zembrin extract from the South African plant Sceletium tortuosum comprise mesembrenone -related alkaloids as prototypal PDE-4 modulators. Objective :The primary efficacy was the change in cognition and the co-primary was the safety and tolerability of Zembrin extract . Method: We recruited normal healthy subjects with randomized double-blinded placebo-controlled cross-over design. During Phase 1, we randomized standardized Zembrin extract formulated as 25 mg capsules and placebo capsules into two arms: 1)Zembrin arm treated with Zembrin capsules at 25 mg once daily ; 2) placebo arm treated with placebo capsules once daily. After the 3-week Phase 1 , the subjects were given a switch-over washout period of 3 weeks . The subjects in the respective Zembrin and placebo arms were switched over to the respective treatment arm . The two groups received either Zembrin or Placebo capsules for 3 weeks. We administered the computerized battery of neuropsychological tests CNSVitalSign and the HAM-D at baseline , week 3 , week 6 and week 9. At regular intervals, we recorded subjective self- ratings of treatment effects and vitals(pulse and blood pressure) . We used the Treatment-Emergent-Adverse-Events scale (TEAE) to monitor adverse events. Results: 22 subjects were recruited (mean age: 54.6 years+/- 6.0 yrs ; male/female ratio: 9/13) from a single site PR (US). Two subjects dropped out from the study.. Daily oral dosing of Zembrin 25 mg among normal cognitively intact cohort selectively and significantly improved two cognitive domains from CNS-Vital-Sign : cognitive set flexibility ($p < 0.032$) executive function ($p < 0.022$) with positive self-ratings of sense of well-being and mood state. No carry-over effect was found for Zembrin. For both Zembrin and placebo arms, we did not find any significant changes in pulse , blood pressure and body weight. Zembrin was well tolerated well with infrequent mild adverse events.but no nausea or vomiting. Conclusion: The selective significant effects of Zembrin extract in improving cognitive flexibility and executive function corroborate PDE-4 as the promising target for cognition enhancement strategy in cognitive aging. The results implicate that mesembrenone. -relaed alkaloids may be beneficial in age-related memory impairments in Alzheimer dementia ,hence highlighting the significance of PDE-4 as a novel target for developing drugs in the prevention and treatment of neurodegenerative disorders. (The study was supported by HGH Pharmaceuticals Ltd South Africa and PJ Thomas Inc. NJ USA.

NR11-42
PATTERN SEPARATION DEFICITS IN MAN SUPPORT ANIMAL & POSTMORTEM WORK TO PROVIDE BREAKING BEHAVIORAL EVIDENCE OF IMPAIRED NEUROGENESIS IN SCHIZOPHRENIA

Lead Author: Keith Andrew Wesnes, Ph.D.
Co-Author(s): Lawrence Brownstein
Howard Hassman

SUMMARY:
BACKGROUND
Evidence appeared in May 2012 that the G-protein coupled receptor, SREB2/GPR85, a known schizophrenia risk factor, negatively regulates hippocampal dentate gyrus neurogenesis-dependent spatial pattern separation in mice (Chen Q et al, European Journal of Neuroscience 2012, doi:10.1111/j.1460-9568.2012.08180.x). In July 2012 post-mortem work was published showing evidence of compromised hippocampal dentate gyrus (DG) neurogenesis in schizophrenics (Walton NM et al, Transl Psychiatry, 2012, 2: e135). The CDR System picture recognition task provides an object pattern separation measure, sensitive to DG activity, which in man selectively declines in aging and mild cognitive impairment (Wesnes K, Alzheimer's & Dementia, 2010, 6: e45); and has recently been found to be impaired in several conditions in which neurogenesis is believed to be disrupted (Wesnes K, Journal of Nutrition Health & Aging, 2012, 16, 863-4).
OBJECT
To determine if DG-sensitive object pattern separation (OPS) is selectively compromised in patients with schizophrenia.
METHODS
The CDR System OPS task was administered to 91 stably mediated schizophrenic patients aged 22 to 63 years. Clinical Global Impression Severity (CGI-S) scores were compared to performance on DG and non-DG measures of the task, and performance was also contrasted to 2,330 healthy controls aged 22 to 63 years.
RESULTS
2-factor ANCOVA (age as a covariate), with Normal v Schizophrenic as one factor and DG v non-DG OPS measures as the other, yielded a significant interaction between the two factors ($p=0.0005$). The difference in % accuracy scores between the populations in the DG sensitive measure was 12.8 (95% CI 10 &16) compared with 5.3 (95% CI 2 & 8) for the non-DG sensitive measure. Further, the speed of the DG sensitive responses was significantly slowed ($p<0.005$) but not for non-DG sensitive ones ($p=0.3$). No such interaction was seen in a comparable forced choice non-DG differentially sensitive verbal recognition task ($p=0.57$), indicating that the OPS effect was not due to response style on such tasks. Importantly, within the 91 patients, CGI-S was significantly associated with the DG sensitive score ($p<0.05$; CGI-S 2=74%; CGI-S 3=66%; CGI-S 2=49%), but not the non-DG sensitive score ($p=0.91$). Speed scores supported the poorer accuracy scores; DG sensitive responses being 181 ms

slower in CGI-S 2 than CGI-S 3, compared to <1 ms for the non DG-sensitive scores.
CONCLUSIONS
This is to our knowledge the first robust cognitive data from an OPS task with established DG sensitivity to show a selective deficit in schizophrenics compared to normals; further supported by statistically reliable disease severity deficits. The implications are that part of the memory deficit in schizophrenia is related to compromised DG neurogenesis and that this deficit may respond to medications which influence neurogenesis; a mechanism possessed by a number of novel therapies now entering clinical trials.

NR11-43
HERITABILITY AND FAMILIALITY OF MENTAL DIMENSIONS IN KOREAN FAMILIES WITH PSYCHOSIS

Lead Author: Myung-Jung Kim, M.D.
Co-Author(s): Myung-Jung Kim, MD, Hee Jung Jung, MD, Ji Kyung Ha, MD, Je Min Park, MD, Byung Dae Lee, MD, Young Min Lee, MD, Eunsoo Moon, MD.

SUMMARY:
Purpose: Schizophrenia is the most devastating mental illness that causes severe deterioration in social and occupational functioning. But the mystery for elucidating its causes is in line with brain's mystery. One possible mechanism for causing that syndrome may be the genetic aberrations in neurodevelopment and neurodegeneration. Categorical syndrome such as schizophrenia could be the complex of many continuous mental structure phenotypes including several personality development/degeneration dimensions. This is the study to search heritability and familiality of personality dimensions in the Korean schizophrenic LD(Linkage Disequilibrium) families.

Method: We have recruited 517 probands(with psychosis) with their parents and siblings whenever possible. For best estimation of diagnosis, we have used medical records and a Korean version of DIGS & FIGS. We have used MMPI, SCL-90R, TCI, NEO questionnaires for measuring personality and symptomatic dimensions. Heritabilities of personality dimensions in total 1248 family members were estimated using Sequential Oligogenic Linkage Analysis Routines(SOLAR). Personality dimensions in total family members were compared with those in 336 healthy unrelated controls for measuring the familialities. Genetic/environmental correlations with symptomatic dimensions for significant personality dimensions aggregated in families were investigated.

Result: Four of the 10 MMPI variables, two of the 5 NEO variables, five of the 7 TCI variables were not significantly heritable and were excluded from subsequent analyses. The three groups(control, unaffected 1st degree relative, case) were found to be significantly different and with the expected order of average group scores for five of the MMPI scales, three of the NEO scales, and two of the TCI scales. Genetic/environmental correlations with symptomatic dimensions for significant personality dimensions aggregated in families will be suggested.

Conclusion: Our results show that the aberrations in several personality dimensions could form the complexity of schizophrenic syndrome as a result of genetic-environment coactions or interactions in spite of some limitations(recruited family, phenotyping). These will be the base as important coefficients of so mysterious equations forming schizophrenia. But still, most areas in positional genetic variations and environmental factors as loaded variables of equations for causing that syndrome remain doubtful.

NR11-44
PERSISTENT NEUROTROPIC PATHOGENS AND PERSONALITY-DERIVED INTERMEDIATE PHENOTYPES OF SUICIDAL SELF-DIRECTED VIOLENCE: AGGRESSION AND SELF-AGGRESSION

Lead Author: Ajirioghene Igbide, M.D.
Co-Author(s): Thomas B. Cook, Patricia Langenberg, Ina Giegling, Annette M. Hartmann, Bettina Konte, Marion Friedl, Maureen W. Groer, Dan Rujescu, Teodor T. Postolache**
**Drs. Postolache and Rujescu contributed equally to this project and share the senior authorship*

SUMMARY:
Background: Toxoplasma gondii, a neurotropic protozoan parasite, has been associated with suicidal self-directed violence (SSDV). Aggression and self-aggression, important intermediate phenotypes for SSDV, have never been studied in relation to latent toxoplasmosis among psychiatrically normal adults.
Methods: 1,000 individuals with no Axis I or II conditions by SCID for DSM-IV (510 men, 490 women, mean age 53.6 ± 15.8) were enrolled at the University of Munich, Germany and self-rated on five measures of aggression and self-aggression using the FAF questionnaire. Plasma IgG antibodies to T. gondii and other neurotropic pathogens (HSV1, CMV) were measured using ELISA. Multivariate tests (MANOVA) were used for overall tests with linear regression models to test for interactions by sex and age.
Results: Overall, T. gondii status was significantly associated with aggression scores ($p<.01$). T. gondii seropositivity was associated with higher aggression scores among women, with an opposite pattern among men, with significant interactions by sex for both FAF-Spontaneous Aggression and Reactive Aggression ($p < .05$). Plots of adjusted FAF-Self-Aggression scores by T. gondii status revealed higher self-aggression among post-menopausal women with an opposite age-related gap among men ($p < .01$). Associations with HSV1 and CMV were not significant.
Conclusions: T. gondii infection was associated with higher aggression and self-aggression among women of postmenopausal age with no history of Axis I or II psychopathology. These results are in concordance with our recent European ecological report documenting a higher frequency of suicide in older T. gondii-positive women.

Supported by the American Foundation for Suicide Prevention (Postolache PI, Rujescu coPI).

NR11-45
PRISM REGISTRY: A NOVEL TOOL TO ASSESS THE PREVALENCE OF PSEUDOBULBAR AFFECT SYMPTOMS

Lead Author: David Crumpacker, M.D.
Co-Author(s): Jonathan Fellus, MD; Daniel Kantor, MD; Benjamin Rix Brooks, MD; Randall E Kaye, MD

SUMMARY:
Objective: To assess the prevalence of pseudobulbar affect (PBA) symptoms across 6 underlying neurologic conditions in a clinical practice setting. To evaluate the impact of neurological condition on patient quality of life (QOL), and use of antidepressants and antipsychotics in patients with and without PBA symptoms.

Background: PBA is a neurologic condition characterized by uncontrollable, inappropriate outbursts of laughing and/or crying. PBA occurs secondary to a variety of neurological conditions. While estimates of US prevalence of PBA may be as high as 2 million persons; the condition is thought to be under-recognized and often confused with depression. The PBA Registry Series (PRISM) was established to provide additional data from a "real-world" clinic sample.

Methods: US healthcare practitioners treating patients with neurological conditions commonly associated with PBA were invited to participate. Institutional Review Board approved investigators were asked to enroll ?20 consenting patients with any of these 6 conditions: Alzheimer's disease (AD), amyotrophic lateral sclerosis (ALS), multiple sclerosis (MS), Parkinson's disease (PD), stroke, or traumatic brain injury (TBI). Patients (or their caregivers) completed the Center for Neurologic Study–Lability Scale (CNS-LS) to screen for PBA symptoms; patients were not screened for other psychiatric disorders. The CNS-LS is validated as corresponding to physician diagnosis of PBA in ALS and MS at scores ?13 and 17, respectively. For PRISM, presence of PBA symptoms was defined as a CNS-LS score ?13. Patients also rated the impact of their neurological condition on QOL using an 11-point scale (0-10). Demographic data and current use of antidepressant/antipsychotic medications were also recorded.

Results: PRISM enrollment closed in September 2012 with 5290 patients. The overall prevalence of PBA symptoms (CNS-LS ? 13) was 36.7% (n=1944), and was highest in the TBI group (52.4%) and lowest in the PD group (26%). Patients with PBA symptoms reported greater impact of their neurological condition on QOL vs those with CNS-LS <13 (6.7 vs 4.7; P<0.0001); QOL scores by disease group were: AD, 6.4 vs 4.3; ALS, 6.4 vs 5.8; MS, 7.0 vs 5.2; PD, 6.4 vs 5.2; stroke, 6.7 vs 4.5; TBI, 6.8 vs 4.7 (P< 0.0001 for all except ALS [NS], two-sample t-test). More patients with PBA symptoms were using at least 1 antidepressant or antipsychotic medication vs those with CNS-LS<13 (43.9% vs 30.4%); AD, 50.3% vs 33.8%; ALS, 44.6% vs 31.9%; MS, 40.4% vs 32.7%; PD, 41.1% vs 22.5%; stroke, 41.3% vs 27.4%; and TBI, 43.0% vs 30.6% (P<0.0001 for all except ALS [NS], Chi-square).

Conclusions: PRISM is currently the largest clinic-based study to assess PBA symptom prevalence. PBA symptoms were common and CNS-LS scores ?13 were associated with impaired QOL and greater use of antipsychotic/antidepressant medications. The data underscore a need for greater recognition and diagnosis of PBA in at-risk patients.

NR11-46
PSYCHOPATHOLOGY IN PATIENTS WITH DEGENERATIVE CEREBELLAR DISEASES: A COMPARISON TO PARKINSON'S DISEASE

Lead Author: Amedeo Minichino, M.D.
Co-Author(s): Francesco Saverio Bersani, Massimo Salviati, Roberto Delle Chiaie, Massimo Biondi

SUMMARY:
OBJECTIVE
Over the past decade, mounting evidence has supported the non-motor functions of the cerebellum based on detailed neuroanatomic studies demonstrating multiple parallel loops between the cerebellum and diverse regions of the cerebral cortex. These include non-motor limbic and frontal areas similar to the loops linking the basal ganglia to different regions of the cerebral cortex. The aim of this study was to investigate the relationship between cerebellar disease and psychiatric illnesses, evaluating whether mental illnesses may be a psychological reactive consequence of chronic neurological diseases or a consequence of the disruption of specific cerebello-cortical circuits.

METHODS
The study included 47 participants: 27 patients with cerebellar lesions and 20 patients with Parkinson's disease. All patients underwent comprehensive psychiatric evaluation using the Structured Clinical Interview for DSM-IV; the psychopathological rating scale HSCL-90 was also conducted. The Statistical Package for the Social Sciences program was used for analysis, chi-square tests and t-tests.

RESULTS
Cerebellar patients presented a higher rate of psychiatric disorders (89%) compared with patients affected by Parkinson's disease (75%) (although this group difference did not meet statistical significance). The expression of mood disorders was higher in the cerebellar diseases group (90%) than in Parkinson's disease group (55%) (p<0.01).
Among those patients with no psychiatric history prior to the onset of neurological disease, 31.25% of the cerebellar patients had developed a bipolar spectrum disorder. The Parkinson's patients on the other hand demonstrated no evidence for the development of bipolar spectrum disorders (group difference at p<0.05). Similar levels of unipolar depression were expressed in the two groups (50% vs. 48.46% respectively).

CONCLUSIONS
The high rate of psychiatric disorders observed in patients with cerebellar pathologies suggest that many, if not most, patients with degenerative cerebellar diseases may benefit from psychiatric intervention. These results also suggest that

unipolar depression, being expressed in a similar manner between cerebellar and Parkinson's group, could be considered as an adaptive psychological reaction to the chronic neurological disease. On the other hand, the bipolar spectrum disorder, expressed only in the cerebellar group, could be more specifically related to the disruption of cortico-cerebellar circuits. These results support previous findings suggesting a causal link between cerebellar dysfunction and bipolar spectrum disorder.

NR11-47
RANDOMIZED COMPARISON OF THE ACUTE EFFECTS OF OLANZAPINE AND ZIPRASIDONE ON WHOLE BODY INSULIN SENSITIVITY IN HEALTHY VOLUNTEERS

Lead Author: Ginger E. Nicol, M.D.
Co-Author(s): Karen S. Flavin, RN, CCRC; Angela Luber-Stevens, BS; Julia A. Schweiger, CCRC; Michael D. Yingling, BS; John W. Newcomer, MD

SUMMARY:

Background

The primary aim of the present study was to evaluate, using a within-subject placebo-controlled comparison, the acute effects of olanzapine or ziprasidone administration on whole-body, as well as tissue-specific, insulin sensitivity (SI) in antipsychotic-naïve healthy young men. We hypothesized that olanzapine, but not ziprasidone, would result in acute decreases in SI compared to placebo.

Methods

Sedentary healthy males were randomized in a cross-over design to IM olanzapine, ziprasidone, or placebo. Acute treatment effects on SI were assessed using hyperinsulinemic-euglycemic clamps with stable isotopomer tracing. Body composition was assessed with Dual Energy X-ray Absorptiometry (DEXA). SI at adipose tissue was measured by evaluating the rate of appearance (Ra) of labeled glycerol; SI at liver was measured by evaluating rate of appearance (Ra) of labeled glucose; SI at muscle was measured by evaluating the rate of disappearance (Rd) of labeled glucose. Main effects of time, time x order of exposure (drug versus placebo first) and treatment condition were assessed with ANCOVA, covarying baseline independent (DEXA-measured total body fat) and dependent variables (D20 infusion rate, % change in glucose Ra, glucose Rd, and glycerol Ra).

Results

In a sample of 37 healthy males (mean age: 33.5 + 8.5 years) participated in the study. In the olanzapine group, 14 participants received active drug first followed by placebo; 5 participants received placebo first followed by active drug. In the ziprasidone group, 12 participants received active drug first followed by placebo; 6 participants received placebo followed by active drug. The mean length of time between clamps was 56.1 days (SD: 38.3) with minimum of 16 days and maximum of 159 days between procedures. A significant time x order effect was observed for whole body SI (D20 infusion rate in mg/kg/min, $F[1,31] = 13.96$, $p = 0.001$) and for glucose Rd ($F[1,31] = 10.90$, $p = 0.002$). No statistically significant effect of antipsychotic exposure was observed for glucose Ra or glycerol Ra.

Conclusions

The magnitude of the observed treatment effect on whole body insulin sensitivity in the present study; approximately 1 mg/kg/min, can be compared to well-established effects of adiposity on clamp-measured insulin sensitivity. In a prior study by our group (unpublished data), using a similar hyperinsulinemic-euglycemic clamp protocol, an increase of 1 unit BMI was associated with a 0.428 decrease in whole body insulin sensitivity measured by glucose infusion rate (mg/kg/min). The effect observed in the present study would be equivalent to a 2-unit increase in BMI. These results suggest that there is an adiposity-independent, acute-onset effect of antipsychotic treatment on glucose regulation at the level of skeletal muscle. However, it remains unclear how long this effect may last, and how it interacts, if at all, with observed effects of adiposity on insulin sensitivity.

NR11-48
PATHWAY OF DEVELOPMENT OF PSYCHOSIS AMONGST CANNABIS ABUSING INDIVIDUALS: TOWARD A MODEL FOR TRAJECTORY

Lead Author: Amresh K. Shrivastava, M.D., M.R.C.
Co-Author(s): Megan Johnston,
Kristen Terpstra,

SUMMARY:

Cannabis has been implicated as a risk factor for the development of schizophrenia, however, but the pathway of cannabis causing psychosis is not well understood. It appears that cannabis does not cause any structural changes per say but deficits in areas of the brain responsible for memory and emotion do show some changes. Recent studies suggest that cannabinoids such as CB1 have a pharmacological profile similar to that of atypical antipsychotic drugs. This mechanisms may involve dopamine, GABA, and glutamate neurotransmission; It is still not known if these changes are transitory or permanent, and whether or not they contribute to the pathophysiology of schizophrenia.

In this presentation we propose a hypothetical model to explain pathways of development of psychosis

NR11-49
RISK OF INCIDENT DIABETES FOLLOWING AUGMENTATION OF ANTIDEPRESSANT MEDICATION WITH A SECOND-GENERATION ANTIPSYCHOTIC FOR DEPRESSION

Lead Author: Paul Pfeiffer, M.D.
Co-Author(s): Kara Zivin
Dara Ganoczy
Hyungjin M. Kim
Marcia Valenstein
Frederic C. Blow

SUMMARY:

Background: Several second generation antipsychotic (SGA) medications have received FDA approval for use in unipolar depression that has not responded to antidepressant monotherapy. SGA augmentation may place patients at greater risk of diabetes than other approaches to treatment for those who do not respond to a single antidepressant. We evaluated these risks among patients receiving care in the Veterans Health Administration (VHA).

Methods: Data were from the VHA's National Depression Registry, which contains electronic treatment records for all patients with a clinical diagnosis of depression. Patients were included if between 2004 and 2008 they were prescribed a selective serotonin reuptake inhibitor within 3 months of an encounter with a depression diagnosis (ICD-9-CM codes 296.2, 296.3, 300.4, and 311) and otherwise had no antidepressant medication in the previous 6 months. Included patients were also prescribed an SGA (quetiapine, aripiprazole, or olanzapine) or a second antidepressant with at least 30 days of overlap with the initial antidepressant. Patients were excluded if they received an antipsychotic medication prior to their new antidepressant fill or if they were diagnosed with bipolar disorder, any psychotic illness, or dementia. The primary outcome was incident diabetes, defined as a clinical encounter (but not their first primary care encounter) with a diabetes-related diagnosis (ICD-9-CM codes 250.xx, 357.2x 362.01, 366.42) or prescription of a hypoglycemic medication within one year after antidepressant augmentation and no such diagnoses or treatment in the prior 12 months. Logistic regression was used to assess the odds of incident diabetes associated with SGA augmentation vs. addition of a second antidepressant, adjusting for baseline body mass index (BMI), age, sex, race/ethnicity, and comorbid mental health diagnoses.

Results: Among 12,336 patients who met study criteria, 29.3% received SGA augmentation. Patients who received SGA augmentation compared to those who received a second antidepressant were significantly more likely to be male (91.5% vs. 87.7%), African American (18.3% vs. 10.8%), and Hispanic (6.6% vs. 4.3%), and were more likely to have comorbid alcohol use disorders (20.5% vs. 15.0%), other substance use disorders (15.5% vs. 9.3%), posttraumatic stress disorder (51.9% vs. 31.3%), and other anxiety disorders (31.6% vs. 27.3%). Patients who received SGA augmentation had lower baseline BMI (29.2 vs. 29.8). Of patients who received SGA augmentation, 4.4% developed diabetes in one year compared to 2.9% of patients who received a second antidepressant. SGA augmentation had an odds ratio of 1.48 (95% CI: 1.14, 1.92) for incident diabetes in adjusted analyses.

Conclusion: In clinical practice, SGA augmentation for depression is associated with greater odds of incident diabetes compared to treatment with two antidepressants. Validation of these findings in other health systems and populations is indicated.

NR11-50

ROUTINE CLINICAL ASSESSMENT OF COGNITIVE FUNCTIONING IN SCHIZOPHRENIA, MAJOR DEPRESSIVE DISORDER, AND BIPOLAR DISORDER

Lead Author: Amna Kooli, Ph.D.
Co-Author(s): Amna Kooli1, Wael Belgaied1, Alexandre Vimont1, Cécile Rémuzat1, Samuel Aballéa1, Mondher Toumi2, Jennifer Samp3, Kasem Akhras3
1Creativ-Ceutical, 500 Lake Cook Road #350, Deerfield, IL, USA
2Université Claude Bernard Lyon 1, Lyon, France
3Takeda Global Research and Development Center, Deerfield, IL, USA

SUMMARY:

As more evidence points to the association of cognitive dysfunction with disease states such as schizophrenia, major depressive disorder (MDD), and bipolar disorder (BPD), the assessment of cognitive function in these areas is increasingly important. Despite heightened awareness of cognitive dysfunction in these disorders, it is relatively unknown how cognitive function is measured in routine clinical practice. The objective of this study was to assess psychiatrists' awareness and clinical evaluation of cognitive function in routine clinical practice in patients with schizophrenia, MDD, and BPD.

An online survey was disseminated to a database of psychiatrists located in Germany, France, Spain, Hong Kong, Australia and the United States. Psychiatrists were eligible to participate if they saw at least 50 patients per month and regularly assessed cognitive function in schizophrenia, MDD, and/ or BPD. The survey asked psychiatrists about evaluation of cognitive function, instruments used to measure cognitive function, determination of cognitive dysfunction, and their interest in the development of new drugs for cognitive enhancement.

A total of 61 psychiatrists participated in the survey. 45% reported that they evaluate cognitive function with a cognitive instrument while the remainder relied solely on patient history. Of the reported instruments used to measure cognitive function, only a few are actually appropriate for cognitive assessment and studied in the diseases of interest (15% of reported instruments in schizophrenia, 1% in MDD and 0% in BPD). Other instruments reported were clinical measures or measures that did not assess cognition. In assessing results and diagnosing cognitive dysfunction, the majority of psychiatrists did not rely on cut-off scores (82%) and none used normative data. Despite this, 68% stated that they considered the instrument to be robust and sensitive. When psychiatrists were asked about the impact of treatment, many stated that they do evaluate the effect of treatment in relation to cognitive function. Additionally, 99% stated that they would prescribe a cognition enhancing drug, if one became available. For evaluating a new cognition enhancing drug, psychiatrists in the US and Spain believed that patient functioning is the important outcome while those in France, Germany, and Hong Kong

reported quality of life to be of greater value.

Our findings reveal that there are some inconsistencies in psychiatrists' routine clinical evaluation of cognitive function. The low use of true cognitive assessment instruments in routine practice may encourage wider promotion and dissemination of information regarding proper cognitive assessment. Despite this, many psychiatrists recognize the importance of cognition status in mental health conditions since nearly all stated they would endorse prescribing a new drug for cognitive enhancement.

The study was sponsored and funded by the Takeda Pharmaceutical Company.

NR11-51
SEROTONIN TRANSPORTER GENE PROMOTER POLYMORPHISM (5-HTTLPR) IS NOT ASSOCIATED WITH OPTIMISM-PESSIMISM AS MEASURED BY THE MMPI

Lead Author: Simon Kung, M.D.
Co-Author(s): Gen Shinozaki, MD
Maria I. Lapid, MD
Brooke H. Rosen, BA
Stephen S. Cha, MS
Robert C. Colligan, PhD

SUMMARY:
Background:
The relationship between the serotonin transporter gene (SLC6A4) promoter polymorphism (5-HTTLPR) and various psychiatric conditions has been widely investigated, yielding inconsistent results. The short (s) allele is thought to result in less efficient serotonin transporter function compared to the wild-type long (l) allele. This functional difference is theorized to interact with environmental factors to explain the association between (s) carriers and higher trait anxiety and increased risk of depression. Conversely, individuals with the l/l genotype have been associated with a preference towards positive processing and greater life satisfaction. We investigated 5-HTTLPR associations with optimism-pessimism as measured by the Minnesota Multiphasic Personality Inventory (MMPI).

Methods:
A retrospective review of adult patients who had 5-HTTLPR genotyping between 2006 and 2011, who also completed a MMPI as part of their clinical care. Genetic data were typically obtained to identify optimal antidepressants for patients with treatment-resistant depression. Patients were categorized into genotype groups l/ l, s/l, and s/s. The MMPI optimism-pessimism scale was derived from Seligman's theory of Explanatory Style (ES) applied to the MMPI items. Seligman's theory postulates that a pessimistic ES is associated with increased risk of depression. A score of 60 or higher indicates a pessimistic ES, between 40-60 can be considered "mixed," and less than 40 indicates optimistic ES. Scores from the optimism-pessimism scale were analyzed by three groupings: a 2-category pessimistic versus mixed+optimistic, a 3-category pessimistic/mixed/optimistic, and a 4-category quartile. ANOVA was used to test for associations.

Results:
A total of 259 patients completed both genotyping and an MMPI. MMPIs were completed an average of 18 years before genotyping. There was no significant association of the 5-HTTLPR polymorphism categories with the optimism-pessimism score for any of the three optimism-pessimism groups. Additionally, no significant association was found when further analyzing by gender and age (stratified into <30 years and 30+ years).

Conclusion:
While the hypothesis of a candidate gene such as SLC6A4 affecting personality traits is intriguing, we found no association of the 5-HTTLPR with a pessimistic explanatory style in a sample of psychiatric patients. However, prior research suggests that environmental variables such as life stressors can significantly influence the relationship between genotype and psychological traits, and thus future research should include these variables to investigate potential gene by environment interactions.

NR11-52
THE EFFECT OF ADRENERGIC MODULATION TREATMENT OF PSYCHOGENIC NONEPILEPTIC SEIZURES (PNES): A RETROSPECTIVE CHART REVIEW.

Lead Author: Arpit Aggarwal, D.P.M., M.D.
Co-Author(s): David Lardizabal, M.D., Anupama Kale, M.D.; Bala Kondaiah Nimmana, MBBS, Deepti Bahl, MBBS, Pradeep Sahota, M.D.

SUMMARY:
Background:

Numerous case reports have suggested that traumatic events are an important risk factor for developing PNES. Several studies have also examined the effects of anti-noradrenergic agents on PTSD symptoms. As PNES may arise as a clinical expression of post-traumatic experiences, adrenergic modulation may be helpful in the treatment of PNES.

Design/Methods: We performed a retrospective chart review of patients ages 18-70 seen at the University of Missouri Hospital between 2009 and 2012 with a confirmed diagnosis of PNES by video EEG monitoring. We reviewed details including age, gender, duration of PNES, psychiatric diagnosis upon discharge, concomitant psychiatric medications, seizure frequency, tolerability and side effects at last known follow-up following initiation of adrenergic modulation therapy. We excluded patients diagnosed with both epileptic and nonepileptic seizures and those who did not follow-up.

Results:

The charts of 14 patients (mean age: 38.6 years) were reviewed, including 3 males (21.4%) and 11 females (78.6%).

Duration of PNES for patients studied ranged from 6 months to 30 years. Seven patients were started on propranolol, 5 on prazosin and 2 on clonidine. The majority of patients had more than one psychiatric diagnosis: PTSD (8), depression (10), anxiety (9), somatization disorder (2). 12 patients were on SSRI (86%) and AED (86%), 5 on benzodiazepines (36%), 2 on antipsychotics (14%). At last known follow-up, ranging from 3 to 12 months from time of diagnosis, all 14 patients had a positive response with decreased frequency and duration of episodes, with 4 patients experiencing complete remission. Side effects were seen in 2 patients with propranolol and thus treatment was changed to prazosin. Most common dosages used included: Propranolol 10 mg TID, Prazosin 1 mg QHS, and Clonidine 0.1 mg QHS.

Conclusions:

Adrenergic modulation for PNES associated with post-traumatic events showed a beneficial effect in reducing psychogenic nonepileptic seizures.

NR11-53
THE SAFETY AND EFFICACY OF QUETIAPINE-XR MONOTHERAPY OR ADJUNCTIVE THERAPY TO MOOD STABILIZER IN BIPOLAR DEPRESSION WITH GENERALIZED ANXIETY DISORDER

Lead Author: Keming Gao, M.D., Ph.D.
Co-Author(s): Keming Gao, MD, PhD, Jun Chen MD, PhD, David E. Kemp, MD, MS, Carla Conroy, BA , Philip Chan, MS, Mary Beth Serrano, MA, Renee Slembarski, BA, Stephen J. Ganocy PhD, Joseph R. Calabrese MD

SUMMARY:

Objective: The primary objective is to pilot the efficacy and safety data of quetiapine-XR (Extended Release) monotherapy or quetiapine-XR adjunctive therapy to mood stabilizer in the acute treatment of bipolar depression and comorbid generalized anxiety disorder (GAD) in patients with bipolar disorder (BPD) with or without a substance use disorder and to test the feasibility of conducting randomized, placebo-controlled clinical trials in this highly comorbid population.
Methods: Male and female patients from 18 to 65 years old who met the diagnosis of bipolar I or II depression and current GAD with Hamilton Depression Rating Scale -17 items (HAMD-17) total score ? 18 and Hamilton Anxiety Rating Scale (HAMA) total score ? 18 at baseline were randomly assigned to receive quetiapine-XR (150 -300 mg/d) or placebo monotherapy or adjunctive therapy to mood stabilizer for up to 8 weeks. The primary outcome measure was the change in the HAMD-17 score change from the baseline to the endpoint. The secondary measures include response rate (? 50% improvement), remission rates (HAMD-17 ? 7), the Clinical Global Impressions of Improvement or Severity (CGI-I or S), and the Quality of Life Enjoyment and Satisfaction Questionnaire (Q-LES-Q), and Quick Inventory for Depression Symptomatology-16 item Self-Report (QIDS-16). Mixed-effects repeated measures model (MMRM) was used to analyze treatment outcomes. The ANOVA models were used to evaluate safety data based on a last-observation-carried-forward strategy. Kaplan-Meier analysis and the log-rank test were used to compare treatment groups for time-to-event data.
Results: Of the 120 subjects screened, 100 patients were equally randomized to quetiapine-XR and placebo. Eighteen in quetiapine-XR and 26 in placebo completed the study. The change in HAMD-17 total scores between the patients treated with quetiapine-XR and those given placebo was not statistically significant. Kaplan-Meier (KM) analysis of time to HAMD-17 response yielded no difference between patients treated with
quetiapine-XR and those given placebo (log-rank chi-square = 0.147, p = 0.701). K-M analysis of HAMD-17 time to remission between the two treatment groups showed similar results (log-rank chi-square = 0.070, p = 0.791). There were no significant differences between quetiapine-XR and placebo in response rates based on HAMA total score, 28% vs. 32%, and remission rates based on a final HAMA total score of < 7, 11% vs. 16%. There were also no significant differences between quetiapine-XR and placebo in other secondary outcome measures and safety measures.
Conclusion: In this highly comorbid group of patients with bipolar disorder and GAD, quetiapine-XR monotherapy or adjunctive therapy to mood stabilizer was not superior to placebo in reducing depressive and anxiety symptoms.
This study was funded by NARSAD and AstraZeneca Pharmaceutical Company.

NR11-54
TOLERABILITY AND COSTS ASSOCIATED WITH ANTIPSYCHOTIC (AP) MONOTHERAPY VS. AP POLYPHARMACY

Lead Author: Kathleen Reilly
Co-Author(s): Maxine Fisher, PhD; Keith Isenberg, MD; Kathleen F. Villa, MS

SUMMARY:

Objective: To compare total healthcare cost, inpatient utilization and comorbidities among patients with schizophrenia (SZ) taking antipsychotic (AP) monotherapy versus those taking AP polypharmacy.

Methods: We examined a retrospective cohort from commercial claims from 01/01/2007-04/30/2010 using the HealthCore Integrated Research Database (HIRDsm). Patients (N=4,156) between ages 13-64 with ? 2 claims for SZ were identified and indexed based on the first medical claim for SZ in the study period. AP use at baseline (2nd and/or 1st generation APs) was identified by the pharmacy claim closest to the index medical claim within 180 days. Patients were followed for 1 year. AP therapy group was categorized as: AP monotherapy ("mono"; one AP: n=3,188, 77%) or AP polypharmacy ("poly"; two or more APs filled within 45 days: n=968, 23%). Total annual costs of all medical and pharmacy claims were calculated. Costs were described with means and standard deviations. Differences in mean costs were compared using ANOVAs (using log transformed values). Types and numbers of comorbidities and medications were described as well as patient demographic and treatment char-

acteristics. GLM regressions were used to predict total costs by type of therapy holding the above covariates constant.

Results: Compared to patients on mono, poly patients had significantly higher ($p<0.01$) mean total annual all-cause costs (mono: $19,319±30,287 vs poly: $31,264±39,869) and higher ($p<0.01$) mean total annual costs even when excluding APs (mono: $16,316±30,165 vs poly: $25,550±39,999). Inpatient services were the main driver, accounting for 39% of annual costs among mono patients and 45% among poly patients. Compared to mono patients, more poly patients had at least 1 inpatient stay (mono: 32% [n=1027] vs poly: 50% [n=480]) and nearly double the rate of re-admissions (mono: 14% [n=436] vs poly: 23% [n=222]). Poly patients had nearly double the frequency of obesity in every age group compared to mono patients ($p<0.01$) and higher rates of hyperlipidemia ($p<0.05$) and diabetes ($p<0.05$) among patients 18-45. In regression analyses predicting costs controlling for age, gender, somatic medications and comorbidities, psychiatric medications and comorbidities, length of therapy, and switch in AP, poly was an independent predictor of total annual all cause costs ($p<0.01$) and total annual costs excluding costs of index medications ($p<0.01$). Higher comorbidity burden was also significantly associated with higher costs. ($p<0.01$)

Conclusion: Patients on poly (multiple 2nd and/or 1st generation APs) seem to have more severe SZ, which could account for differences in cost and inpatient utilization. However, the higher rate of re-admission (more than 1 inpatient stay) among poly patients suggests poly may have limited efficacy and needs to be weighed against the comorbidity and cost burdens.

NR11-55
VILAZODONE EXHIBITS A FAVORABLE SEXUAL ADVERSE EFFECT PROFILE IN MALE RATS

Lead Author: Ronald Sake Oosting, Ph.D.
Co-Author(s): Johnny S.W. Chan
Berend Olivier
Pradeep Banerjee

SUMMARY:

Background: Selective serotonin reuptake inhibitors (SSRIs) are known to cause sexual dysfunction in humans (especially ejaculation problems in males). Similarly, chronic administration of SSRIs has also been shown to impair sexual function in male rats. Vilazodone is a serotonin reuptake inhibitor and 5-HT1A receptor partial agonist approved for the treatment of major depressive disorder. Because 5-HT1A agonists like 8-OH-DPAT are known to stimulate male sexual function, we hypothesized that vilazodone may cause relatively less sexual dysfunction in male rats compared with 2 other SSRIs (citalopram and paroxetine) due to its potent partial agonism at 5HT1A receptors.

Methods: We compared the effects of chronic administration of therapeutically relevant doses of vilazodone (1, 3, and 10 mg/kg; IP for 2 weeks), citalopram (10 and 30 mg/kg; IP for 2 weeks) and paroxetine (10 mg/kg; IP for 2 weeks) on various sexual behavior parameters (in particular, number of ejaculations and copulatory efficiency), in male rats. Sexual function of each rat was tested in the presence of an estrous female rat on days 1, 7 and 14.

Results: Chronic administration of either citalopram or paroxetine significantly reduced most sexual behavior parameters tested. For example, the number of ejaculations was markedly decreased on day 7 in both paroxetine and citalopram groups compared with vehicle control ($P<.001$). Additionally, decreases in copulatory efficiency in both paroxetine and citalopram groups compared with vehicle ($P<.001$) persisted throughout the dosing period. In contrast, vilazodone did not impair sexual function (eg, number of ejaculations or copulatory efficiency) at the above time points at any of the doses tested.

Conclusion: This study shows that vilazodone, at therapeutically relevant doses, lacks sexual side effects in male rats and suggests that vilazodone may have a favourable clinical sexual side effect profile.

This study was funded by Forest Laboratories, Inc.

NR11-56
VORTIOXETINE (LU AA21004), AN INVESTIGATIONAL MULTIMODAL ANTIDEPRESSANT, REVERSES EXECUTIVE FUNCTION DEFICITS IN RATS TREATED SUBCHRONICALLY WITH PCP

Lead Author: Alan L. Pehrson, Ph.D.
Co-Author(s): Niels Plath, Connie Sanchez

SUMMARY:

Background: The neurobiological substrate for cognitive functions is very complex. However, deficient cortical glutamate-mediated excitatory neurotransmission through NMDA receptors does play a prominent role. Thus, subchronic treatment with the NMDA receptor antagonist phencyclidine (PCP) leads to deficits in a variety of cognitive tests, including impaired executive function in the rat attentional set-shifting model and alterations in glutamate and ?-aminobutyric acid (GABA) function in the prefrontal cortex. The investigational multimodal antidepressant vortioxetine is a 5-HT3, 5-HT7 and 5-HT1D receptor antagonist, 5-HT1B receptor partial agonist, 5-HT1A receptor agonist and inhibitor of the serotonin transporter (SERT) in vitro1,2. The literature indicates that brain localization and physiological function of vortioxetine's receptor mechanisms have the potential to enhance cognitive function and modulate GABA and glutamate neurotransmission. Here we investigate vortioxetine's effect on executive function in rats treated subchronically with PCP.
Methodology: Male Long Evans rats treated with PCP (5 mg/kg, b.i.d, i.p.) for 7 days followed by a 7-day washout were assessed in an attentional set-shifting paradigm 1h after treatment with vortioxetine (1, 3 or 10 mg/kg, sc), vehicle, or positive control (modafinil 64 mg/kg, po).
Results: Subchronic PCP significantly impaired extra-dimensional shift performance. Vortioxetine dose-dependently (at 3 and 10 mg/kg; $p<0.05$ and $p<0.01$, respectively) and

modafinil ($p<0.01$) restored extra-dimensional shift performance to the vehicle control level.
Summary: Vortioxetine restored subchronic PCP-induced impairment of executive function in a rat attentional set-shifting paradigm. These findings may warrant investigating vortioxetine's potential to treat clinical conditions associated with cognitive dysfunction.

1. Mørk et al. J Pharmacol Exp Ther 2012;340:666-675
2. Westrich et al. Int J Psychiatry Clin Pract 2012; 16(Suppl 1):47

Conflict of interest: The authors are employees of Lundbeck.
Commercial support: This research was funded by H. Lundbeck A/S and the Takeda Pharmaceutical Company, Ltd.

NR11-57
VORTIOXETINE (LU AA21004), AN INVESTIGATIONAL MULTIMODAL ANTIDEPRESSANT: DIFFERENTIATION FROM CURRENTLY USED ANTIDEPRESSANTS IN RODENT MODELS

Lead Author: Connie Sanchez, D.Sc.
Co-Author(s): A.L. Pehrson PhD1, C. Betry PhD2, D. David PhD3, Y. Li PhD1, M. Gulinello PhD4, S.C. Leiser PhD1 N. Haddjeri PhD2

1Lundbeck Research USA, Paramus, NJ 07652, USA, 2Universite Claude Bernard, Lyon, France, 3Université Paris-Sud XI, Paris, France, 4Albert Einstein College of Medicine, Bronx, NY, USA

SUMMARY:
Objective: Whereas the majority of currently used antidepressants mediate their therapeutic effects through inhibition of monoamine transporters, vortioxetine mediates its effects through modulation of 5-HT receptors and inhibition of the 5-HT transporter (SERT). Vortioxetine is a 5-HT3, 5-HT7 and 5-HT1D receptor antagonist, 5-HT1B receptor partial agonist, 5-HT1A receptor agonist and inhibitor of SERT in vitro1,2. Analyses of target occupancy studies in rodents and SERT occupancy studies from human PET studies support a dose dependent occupancy of all these targets at clinical doses of vortioxetine1,3. Here we compare vortioxetine to SSRI (selective serotonin reuptake inhibitor) and SNRI (serotonin norepinephrine (NE) reuptake inhibitor) antidepressants in preclinical rodent models relevant for antidepressant activity and cognitive functioning.
Methods: In vivo extracellular unitary recordings were from rat dorsal raphe nucleus (DRN) 5-HT, locus coeruleus (LC) NE and ventral tegmentum (VTA) dopamine (DA) neurons. Assessment of antidepressant activity used the mouse forced swim test and a rat progesterone withdrawal model. Assessment of cognitive function used quantitative EEG measures and a novel object recognition memory task in normal and 5-HT depleted rats.
Results: The recovery of DRN 5-HT neuronal firing and desensitization of somatodendritic 5-HT1A autoreceptors was faster with vortioxetine than with the SSRI fluoxetine (1 day vs. 14 days) and occurred at a lower SERT occupancy. LC NE and VTA DA neuronal firing was largely unaffected by vortioxetine, whereas SSRIs or SNRIs decrease the firing rate in these nuclei over time. Vortioxetine showed antidepressant-like activity in BALBc mice in the forced swim test, as did the SSRI fluoxetine. Vortioxetine was effective at lower SERT occupancies than required for fluoxetine. Vortioxetine, but not the SSRI escitalopram or the SNRI duloxetine, was active in a progesterone withdrawal model of depression. qEEG analyses demonstrated increases across power bands with vortioxetine, but not with duloxetine or escitalopram, supporting a role for vortioxetine in modulating cortical networks recruited during cognitive behavior. Similar to literature reports for SSRIs, vortioxetine restored time-induced memory deficits in normal rats, but only vortioxetine, not escitalopram or duloxetine, restored memory deficits induced by 5-HT depletion.
Conclusions: The effects of vortioxetine in preclinical rodent models relevant for antidepressant activity and cognitive functioning differ from those of SSRIs and SNRIs. This indicates that vortioxetine's receptor mechanisms are critical for its pharmacological activity and warrants further investigation of the clinical impact of vortioxetine's receptor activities.
1. Mørk et al. JPET 2012;340:666-675
2. Westrich et al. Int J Psychiatry Clin Pract 2012; 5(Suppl 1):47
3. Pehrson et al. Eur Neuropsychopharmacol 2012; doi:10.1016/j.euroneuro.2012.04.006

POSTER SESSION 12
TREATMENT SERVICES AND OTHERS

NR12-01
DEEP BRAIN STIMULATION FOR THE TREATMENT OF TOURETTE'S SYNDROME: A LITERATURE REVIEW

Lead Author: Vandana Kethini, M.D.
Co-Author(s): Azim Rizvi (PGY-3), Adarezza Ferrer(PGY-4), Wendell Johnson(PGY-2), Fazanah Khan(MSIII), Elina Petrosova (MSIII), Andrew Smith (MSIV)

SUMMARY:
Objective: To determine the importance of deep brain stimulation in the treatment of Tourette's Syndrome.

Method: Data was gathered using a comprehensive search of journal databases. Keywords used in searching the journal databases were the following: "deep brain stimulation," "Tourette syndrome," "treatment of Tourette." We identified three articles meeting our topic criteria, and the information was used in our literature review.

Results: Our literature review revealed that bilateral thalamic and pallidal stimulation is useful in the treatment of Tourette's syndrome, with up to a 70% reduction in tics, as evidenced by Yale Global Tic Severity Scores (YGTSS). Other studies have shown a 25% reduction in severity of tics with stimulation of the anterior limb of the internal capsule. One study demon-

strated a reduction in YGTSS from100 to 56 by using simultaneous stimulation of the anterior limb of the internal capsule and the nucleus accumbens. Adverse effects were minimal, with secondary benefit of improved mood, reduced anxiety and fewer obsessions and compulsions noted.

Discussion: Tourette's Syndrome can be an embarrassing and debilitating affliction for the individual, and can have a negative impact on mood, social tendencies, and overall quality of life. For these individuals, deep brain stimulation may be used as part of a total therapeutic plan. Bilateral stimulation of the thalamus and globus pallidus interna have been shown to reduce tics by 65-95% in many studies, with greater benefit to motor tic reduction as compared to phonic tic reduction. Additional studies have shown that unilateral stimulation of the thalamus did not reduce the number or severity of tics, and may in fact increase their severity. The sustained improvements in co-morbid behavioral disturbances, including ADHD, were greater when stimulation of the mid-thalamus at the centromedian-parafasicular complex was carried out.

References:
1. Tourette's syndrome and deep brain stimulation
J L Houeto, C Karachi, L Mallet, B Pillon, J Yelnik, V Mesnage, M L Welter, S Navarro, A Pelissolo,P Damier, B Pidoux, D
Dormont, P Cornu, Y Agid

2. Deep Brain Stimulation of the Anterior Internal for the Treatment of Tourette Syndrome: Technical Case Report
Alice W. Flaherty, M.D.,Ph.D., Ziv M. Williams, M.D., Amirnovin, M.D., Ekkehard Kasper, M.D.,
Ph.D., Scott L. Rauch, M.D., G. Rees Cosgrove, M.D., Emad N. Eskandar, M.D., Operative Neurosurgery, Volume 57, October
2005

3. Prospective randomized double-blind trial of bilateral thalamic deep brain stimulation in adults with Tourette syndrome
ROBERT J. MACIUNAS, M.D., M.P.H.,1 BRIAN N. MADDUX, M.D., PH.D.,2
DAVID E. RILEY, M.D.,2 CHRISTINA M. WHITNEY, R.N.C.S., D.N.SC.,2
MIKE R. SCHOENBERG, PH.D.,2 PAULA J. OGROCKI, PH.D.,2 JEFFREY M. ALBERT, PH.D.,3 AND DEBORAH J. GOULD,
M.D.4

NR12-2
NEEDS OF PATIENTS WITH SEVERE MENTAL ILLNESS AFTER 20 YEARS OF THE PSYCHIATRIC CARE REFORM IN SANTOS, BRAZIL

Lead Author: Sergio Baxter Andreoli, Ph.D.
Co-Author(s): Andrade, M.C.R.; Cacozzi, A.; Peluffo, M.P.; Oliveira, P.R.N.; Martin, D.

SUMMARY:

One of the first experiences of psychiatric care reform occurred in the Brazil was in the city of Santos, southeastern Brazil. Over the past 20 years, the network of mental health care was structured in community services (1.2 per 100,000 inhabitants.). It is evenly distributed around the city and attend to all psychiatric disorders, but the most frequent being those considered serious. Objective: To study the needs of patients with a diagnosis of schizophrenic disorder and other psychotic disorders in the Santos psychiatric care network. Method: A cross-sectional study on a probabilistic sample of 401 patients seen in all 5 psychiatric care service community of the city of Santos in the one-year period preceding the survey. The instruments used were: Composite International Diagnostic Interview, Life Chart Rating Form, Positive and Negative Symptom Scale - PANSS. The needs were assessed by Camberwell Assessment of Need (CAN) in direct interviews with patients. Results: Fifty seven (57%) were single; mostly men, and 14.5% were working in the last 6 months. Sixty seven (67%) had been hospitalized in life, 15.5% in the last year, 91% were in treatment, 84% used the service last month and 30% with more than one contact. Pharmaceutical care and psychiatric consultation were the most commonly used treatment modalities, 97% and 88.7%. Ninety (90%) were taking neuroleptics (77.5% typical and atypical 12.5%) and 77.7% were satisfied, with no difference between the type of medication. At the last year, 8.5% attempted suicide, and 9.5% severe. The positive symptoms more frequent were delirium (9%) and conceptual disorganization (10%). Among the negatives symptoms were the difficulty in abstract thinking (34%), social withdrawal (21%) and emotional withdrawal (16.5%). Among the symptoms of general psychopathology the most frequent were active social avoidance (21%), and critical judgment (14.6%) and depression (12.8%). Patients reported that their greatest needs were related to psychotic symptoms (67%), information (56%) and psychological distress (43%). Conclusion: The network of mental health care presenting positive indicators, such as the easy access to services and medications. However, our study showed high prevalence of negative symptoms and needs related with the control of psychotic symptoms. These results may be useful for the organization of care to patients with severe mental disorder. Greater attention should be given to adjustments of medication and psychological support.

NR12-3
THE CURRENT SITUATION OF TREATMENT SYSTEMS FOR ALCOHOLISM IN KOREA COMPARED TO THOSE IN THE UNITED STATES

Lead Author: Ihn-Geun Choi, M.D., Ph.D.
Co-Author(s): Sohyun Lee, Jee Wook Kim, Boung Chul Lee

SUMMARY:

Alcoholism is becoming one of the most serious issues in Korea , and alcohol consumption and its prevalence is higher in Korea than in the United States. The purpose of this review article is to understand the present status of the treatment system for alcoholism in Korea compared to the United States and to suggest its developmental direction in Korea. In both countries, most alcoholism treatment modalities including pharmacotherapy and psychosocial treatment are available

according to their evidence-based treatment guidelines. Compared to the United States, current treatment system of alcoholism in Korea shows the lack of integrative treatment delivery system. These include the absence of an independent governmental administration on alcohol abuse, the lack of alcohol experts/personnel, unbalanced distribution leaning too much towards on admission care in a closed ward, and its disconnection to outpatient care in an open system. To establish integrative alcoholism treatment and rehabilitation service delivery systems, it is important to set up an independent governmental administration on alcohol abuse, to secure experts on alcoholism, and to conduct outpatient alcoholism treatment programs and facilities in an open system including some form of continuing care or after-care following completion of the initial phase of treatment.

NR12-4
A COMPLETED CIRCUIT AUDIT OF FOLLOW UP PSYCHIATRIC OUTPATIENT LETTERS TO GENERAL PRACTITIONERS(GPS).

Lead Author: Hellme Najim, M.D., M.R.C.
Co-Author(s): Pranveer Singh MD MRCPsych

SUMMARY:
Background:
Communication between primary and secondary care is the cornerstone of patients' care. Good communication will be reflected on patients prognosis and quality of life.

Methods:
A questionnaire including 19 item included in the follow up letter was sent to GPs. They were asked to mark each of the 19 item as essential, can be included or irrelevant. The 19 item were used to audit existing practice in the outpatient clinic. The results were presented and recommendation were made including adding a template at the beginning of the letter identified items considered as essential in the GPs' opinion. Reaudit was carried out after 4 years later to review practice and assess whether practice has improved.
Results:
!6 out if 30 GPs replied.57% of the items were considered as essential by more than 87% of the GPs. The rest were considered essential by 50-70% of the GPs. No item was considered as irrelevant.
There was improvement of nearly all 19 item. There was significant improvement in some important item such as diagnosis from 20% to 92%, risk assessment from 0% to 90% , who prescribe 3% to 86% and change of medication from 30% to 95%.
Discussion:
This audit has demonstrated that communication between primary and secondary care is a two way traffic. GPs should have their opinion in this process. It also demonstrated that this process can be improved by dialogue between the two disciplines.
Conclusion:
Dialogue is essential between different disciplines and auditing clinical practice is important in improving patients' care.

NR12-5
A MULTISITE, LONGITUDINAL, NATURALISTIC OBSERVATIONAL STUDY OF TRANSCRANIAL MAGNETIC STIMULATION (TMS) FOR MAJOR DEPRESSION IN CLINICAL PRACTICE

Lead Author: Mark Andrew Demitrack, M.D.
Co-Author(s): David L. Dunner, MD
dldunner@comcast.net
Center for Anxiety and Depression
7525 SE 24th Street, Suite 400
Mercer Island, WA 98040

Linda L. Carpenter, MD
Linda_Carpenter_MD@brown.edu
Brown University School of Medicine
Department of Psychiatry
345 Blackstone Boulevard
Providence, Rhode Island 02906

Dafna Bonneh-Barkay, PhD
Dbonneh-barkay@neuronetics.com
Neuronetics, Inc.
31 General Warren Blvd
Malvern, PA 19355

David G. Brock, MD
dbrock@neuronetics.com
Neuronetics, Inc.
31 General Warren Blvd
Malvern, PA 19355

Philip G. Janicak, MD
pjanicak@rush.edu
Rush University Medical Center
2150 W. Harrison Street
Suite 253
Chicago, IL 60612

SUMMARY:
Objective: TMS is an effective and safe acute treatment for patients who fail to benefit from initial antidepressant pharmacotherapy. However, few studies have examined the longer term durability of this acute benefit. This study was designed to assess the long-term effectiveness of TMS in naturalistic clinical practice settings over 52 weeks following a clinically beneficial acute treatment course.
Methods: Three hundred and seven patients with a primary diagnosis of unipolar, non-psychotic major depressive disorder, who had failed to receive benefit from prior antidepressant treatment, received TMS treatment in clinical practice (66.8% women, 48.6 ± 14.2 years). Forty three clinical practices participated. TMS was provided as determined by the evaluating physician, consistent with labeled use. Two hundred sixty-four patients received benefit from acute TMS treatment, were tapered from their TMS regimen, consented to long-term follow up over 52 weeks, and were evaluable

for statistical analysis. Clinical assessments (CGI-Severity of Illness, PHQ-9 and IDS-SR) were obtained at 3, 6, 9, and 12 months. Two hundred four patients provided data across the entire study period. Concurrent medication use and TMS reintroduction for recurrent symptoms was recorded and summarized during the long-term follow up.
Results: Compared with baseline, there was a statistically significant reduction in mean [SD} CGI-S, PHQ-9 and IDS-SR total scores at the end of acute treatment (5.1 [0.9] vs 3.2 [1.5], 18.3 [5.2] vs 9.6 [7.0], and 45.7 [11.0] vs 27.4 [15.8], all P<0.0001), which was sustained throughout the 52 week follow-up (3.0 [1.5], 9.4 [7.2], and 27.3 [16.1], all P<0.0001), respectively. The proportion of patients who achieved remission at the conclusion of acute treatment remained similar to that observed following the conclusion of the long term follow up phase: CGI-S (total score 1 or 2), 37.1% (acute) and 40.4% (end of long term); PHQ-9 (total score < 5), 26.5% (acute) and 26.1% (end of long term); IDS-SR (total score <15), 28.7% (acute) and 33.6% (end of long term). Following the first long term assessment at 3 months, 30.2% of patients required subsequent reintroduction of TMS based on clinician decision for clinical worsening. In this group, the mean [SD] time to TMS reintroduction was 145 [74] days from entry into the long term follow up phase.
Conclusions: These data support the view that TMS demonstrates a statistically and clinically meaningful durability of acute response over 52 weeks of follow up. Maintenance of benefit was observed under a pragmatic regimen of continuation antidepressant medication and access to TMS reintroduction for symptom recurrence.

Posted on www.clinicaltrials.gov, Listing No. NCT 00104611. Supported by a grant from Neuronetics, Inc.

NR12-6
UNIVERSAL HEALTH COVERAGE LEGISLATION IN MASSACHUSETTS: EFFECTS ON PSYCHIATRIC INPATIENT REPORTS OF PRIMARY CARE AFFILIATION

Lead Author: Beth Logan Murphy, M.D., Ph.D.
Co-Author(s): Bruce M. Cohen MD, PhD (McLean Hospital)

SUMMARY:

A primary goal of Universal Health Coverage proposals in the United States is to encourage better access to care, with the potential to have both a healthier population and reduced healthcare costs. In particular, it was hoped that the move to Universal Health Coverage (UHC) in Massachusetts would shift vulnerable populations away from receiving care in the costly emergency medical system and towards primary and preventive care. Individuals with severe psychiatric illness constitute a highly vulnerable population with traditionally high rates of emergency room use and lack of access to primary care. People with chronic psychiatric illnesses as a group tend to receive less medical care and have higher morbidity and shorter life-expectancy. Medical care for this population is typically more expensive due to both an elevated risk for several chronic, comorbid illnesses and worse medical illness outcomes when a severe psychiatric illness is present. Preventive and early care for this group, particularly in the treatment of cardiac disease and diabetes, might have a significant impact on the health of patients with chronic psychiatric illness.

Massachusetts implemented a Universal Health Coverage program in 2006. Success for this program's goals can be examined by looking at rates of insurance coverage, access to a primary care physician, and lower incidence of preventable disease. This study looked specifically at the success of the UHC program among individuals with psychiatric illness severe enough to warrant inpatient hospitalization at a tertiary care academic treatment center. We examined clinical and demographic factors and noted whether a primary care physician was identified for each patient. Data from patients in this study indicate that patients requiring psychiatric hospitalization in 2008 (post-implementation of Universal Coverage) experienced a shift towards commercial insurance coverage. However, implementation of UHC did not result in higher rates of primary care physician affiliation than in 2005. In 2008, fewer patients reported a primary care physician on admission compared with 2005. Although there was an overall reduction in primary care affiliation, patients in different diagnostic categories were variably impacted. This analysis is an important step for crafting targeted interventions in order to improve primary care affiliation and establish meaningful use of preventive care use in this vulnerable population.

NR12-7
ASSOCIATION BETWEEN CHILDHOOD NEGLECT AND DEFICITS IN RELATIONAL FUNCTIONING IN PSYCHIATRIC INPATIENTS.

Lead Author: Thachell Tanis, B.A.
Co-Author(s): Dilini Herath, Ethan Lu, Azra Qizilbash, Dr. Lisa Cohen, PhD., Dr. Igor Galynker MD. PhD.

SUMMARY:

Introduction:
Childhood neglect is a significant and prevalent problem in the United States. Furthermore, the literature links childhood neglect to the development of personality and psychiatric disorders in adulthood. (Draijer & Langeland, 1999; Johson et al., 2000). As childhood neglect implies lack of intimate relationships with primary attachment figures, it has been hypothesized that neglect may be associated with impaired relational functioning-having the interest in and capacity for close social relationships. Therefore, the current study aims to explore the association between four types of childhood neglect and deficits in the capacity for relational functioning.
Method:
Data were gathered from 114 non-psychotic inpatients between the ages of 18 and 65 in a large urban hospital. Relational functioning was measured using the Severity Indices of Personality Problems (SIPP-118), a self-report questionnaire that measures (mal)adaptive personality functioning. Childhood neglect was measured using the Multidimensional Neglect Scale (MDNS), a self-report questionnaire that measures neglect of physical, emotional, supervisory and cognitive

needs.
Results:
Person correlations were conducted between the MDNS neglect subscales and the SIPP-118 relational functioning domain and its 3 facets. Overall, the relational functioning domain was significantly correlated with all neglect subscales (Emotional: r = - .401, p < .001; Physical: r = -.325, p<.001; Supervisory: r = -.384, p<.001; Cognitive: r = -.385, p<.001). The strongest correlations were found with the enduring relationship facet (Emotional: r = -.456, p < .001; Physical: r = -.341, p<.001; Supervisory: r = -.407, p<.001; Cognitive: r = -.430, p<.001). Although the intimacy facet was significantly correlated with all neglect subscales, it had the lowest correlations (Emotional: r = -.226, p < .016; Physical: r = -.213, p<.023; Supervisory: r = -.267, p<.004; Cognitive: r = -.215, p<.022).
Conclusion:
The findings suggest that childhood neglect is in fact linked to impaired capacity for close social relationships. Further, the results imply that inpatients with a history of neglect may be less impaired in the ability to engage in close social relationships; rather the stronger deficit is in the capacity to sustain relationships. This topic warrants further exploration, as findings pinpointing specific areas of weakness for individuals with a history of childhood neglect may support more precise case conceptualization and better treatment.
References:
Draijer N, Langeland W: Childhood trauma and perceived parental dysfunction in the etiology of dissociative symptoms in psychiatric inpatients. Am J Psychiatry 1999; 156:379-385
Johnson JJ, Smailes EM, Cohen P, Brown J, Bernstein, DP: Associations between four types of childhood neglect and personality disorder symptoms during adolescence and early adulthood: Findings of a community-based longitudinal study. J Pers Disord 2000; 14(2):171-187.

NR12-8
CHANGING CULTURES OF STATE PSYCHIATRIC HOSPITALS TO REDUCE CLIENT SECLUSIONS AND RESTRAINTS

Lead Author: Kevin Ann Huckshorn, M.S.N., R.N.
Co-Author(s): Iman Parhami, M.D., MPH
Imran Trimzi, M.D.
Mary Diamond, D.O.
Susan Robinson
Gerard Gallucci, M.D.

SUMMARY:

Background:
The use of seclusion and restraint creates significant risks at psychiatric hospitals. These risks include death, serious injury, traumatization, and other psychological harm for patients and the staff administering the seclusion or restraint. In light of these potential consequences, some facilities continue to incorporate these methods apathetically and too often. The purpose of this report is to identify the strategies used to implement a pilot program aimed at reducing the utilization of seclusions and restraints and present preliminary data assessing the trend of their use over time.
Methods:
In 2008, the Delaware Psychiatric Center implemented a new pilot program aimed to reduce the utilization of seclusions and restraints in the hospital. From 2008 to 2012, the number of seclusions and restraints and associated adverse effects were recorded. Generalized linear models determined whether the number of seclusion and restraint incidents decreased over time.

Results:
Strategies that helped implement this pilot program included revising the mission statement to incorporate trauma informed and recovery principles, providing new mandatory training for staff to learn alternative methods to deal with aggressive and agitated patients, removing security from front lines role in responding to codes, and creating comfort rooms. Preliminary results revealed a reduction in the number of seclusions (year: number of incidents; 2008:43; 2009:39; 2010:12; 2011:1; 2012:2) and restraints (2008:106, 2009:26, 2010:39, 2011:50, 2012:2). Analysis suggests a statistical significant reduction in the number of seclusion and restraints in this period. The number of adverse effects did not change over time.

Conclusion:
The revealing downward trend of seclusions and restraints in this period imply the feasibility, practicability, and potential benefits from the implementation of this pilot program.

NR12-9
CHILDHOOD ADVERSITY IS ASSOCIATED WITH PSYCHIATRIC DISORDERS, ANXIETY SYMPTOMS AND SUBSTANCE USE

Lead Author: Nancy C. Low, M.D., M.Sc.
Co-Author(s): N. Lezaic, E. Dugas, G.E. Kraus, I. Karp, J. O'Loughlin

SUMMARY:

Background: Childhood adversity (CA) is associated with mood disorders in adults in clinical settings. Previous research is limited to clinical samples that examine the association between few or uncommon childhood events (i.e. violent physical abuse) and a narrow range of mental health and substance use outcomes.
Objective: To examine the association between CA and (a) psychiatric disorders, anxiety symptoms, and substance use; (b) specific psychiatric disorders including mood disorders (bipolar, depression) anxiety disorders and alcohol or drug problems; (c) self-reported symptoms of depression, panic, GAD, social phobia and agoraphobia; (d) use of specific substances.
Methods: A school-based prospective cohort of 1293 students was followed 22 times over 13 years beginning in grade 7 (age 12-13 years). Data on childhood adversity were collected from 642 parents. Data on diagnosed psychiatric disorders were collected from cohort participants (n = 880) in cycle 21 (mean age 21 years; 47% male) which also assessed lifetime anxiety symptoms (panic, GAD, social phobia, agoraphobia) and lifetime use of specific substances. Depres-

sion symptoms across adolescence were collected every 3 months during the five years of secondary school. The association between number of childhood adversities and number of disorders, substances and symptoms was examined in linear and logistic regression analyses.
Results: The CA experienced ranged from 2% for death of mother to 68% for death in the family (other than parent). Number of childhood adversities was associated with number of psychiatric disorders, anxiety symptoms, and lifetime substance use. In the presence of ?3 adversities), there was a 3.5-fold increase in diagnosed mood disorders (depression, bipolar disorder) and a 3-fold increase in anxiety disorders and alcohol or drug problem. CA was also associated with a 2.5-fold increase in self-reported depression, panic, GAD and social phobia symptoms; 2-fold increase in social phobia symptoms, and lifetime use of specific drugs (marijuana, speed, ecstasy, cocaine) ranging from a 1.5 to 2-fold increase.
Conclusion: Childhood adversity is associated with mental health problems (depressed mood, anxiety) and substance use in adolescents and young adults. Strategies to detect childhood adversity and intervene to protect against possible mental health consequences should be developed.

NR12-10
COMPARATIVE EFFICACY OF CBT FOR COMBAT AND NONCOMBAT-RELATED PTSD: A META-ANALYTIC REVIEW

Lead Author: Stephen C. Messer, Ph.D.
Co-Author(s): Lyndsey Zoller, M.S., Dana Barack, B.S., Sean Coad, B.A., Casey Straud, M.S., Stephanie D. Guedj, B.A.

SUMMARY:
Statement of the Problem

PTSD confers a significant burden of illness on the person and society due to its prevalence, symptomatic severity and functional impairment, morbidity and mortality risks, and health care utilization and economic costs. A subpopulation at increased risk for the onset and effects of PTSD includes current and past members of the U.S. armed forces, of which approximately 2.5 million have deployed to warzones in Iraq and Afghanistan. Compared to past year prevalence estimates of 3.5% in the general population, studies of active duty/reserve component combat troops obtain rates closer to 14%.

Researchers have responded by developing and evaluating psychological interventions targeting PTSD morbidity. Most trials focused on PTSD related to traumas of sexual/ physical assault, accidents, or natural disasters. Rigorous controlled trials have accrued substantial evidence supporting the efficacy of cognitive behavioral therapies (CBT). Several expert panels have created practice guidelines recommending CBT as the front-line treatment for PTSD.

A paucity of psychological treatment outcome studies with military personnel/veterans exists. Remarkable given: 1) the prevalence and severity of combat-related PTSD, 2) theoretical debate regarding the salience of combat trauma, and 3) reports of "differential treatment response" among those with combat vs. noncombat PTSD. It has been suggested that decreased treatment response, particularly among veterans, reflects the influences of repeated trauma, symptom chronicity, and comorbidity, and combat PTSD may represent a disorder with different mechanisms than noncombat PTSD experienced by civilians. Notably, no study to date has exhaustively and empirically evaluated the evidence regarding differential psychological CBT treatment response among those with combat-related versus noncombat PTSD.

Method/Subjects/Procedure

We conducted an exhaustive systematic review of acute CBT treatment outcome trials for combat and noncombat-related PTSD, building on existing Cochrane Collaboration and Institute of Medicine reviews, while conducting an intensive literature search of relevant databases (e.g., DARE, EMBASE, PsycINFO, PubMed, PILOTS). Random effects modeling was used o compute the combined effect size (Hedge's g), mixed effects analysis and meta-regression examined potential moderators (e.g., age, gender, baseline PTSD severity, baseline Depression, treatment hours, attrition rate, study year)(CMA software).

Results

The combined CBT effect size was substantial, $g = 1.15$ [0.89, 1.42], $p < .0001$. CBT efficacy was not significantly different for combat and noncombat-related PTSD, $Q(1) = 0.45$, $p = .50$, with highly overlapping 95% CIs, combat PTSD: $g = 1.01$ [0.50, 1.52], $p < .0001$, and noncombat PTSD: $g = 1.21$ [0.89, 1.53], $p < .0001$.

Conclusions

The clinical "maxim" that combat PTSD is more "treatment resistant" than noncombat PTSD was not supported.

NR12-11
DISCHARGE PLANNING AND MEDICATION ADHERENCE MANAGEMENT FOR PATIENTS WITH SCHIZOPHRENIA: A PSYCHIATRIC NURSING-FOCUSED PERSPECTIVE

Lead Author: Linda Bleecker, M.S.N.
Co-Author(s): Valerie Westhead, MD; Seminole Behavioral Healthcare
Jacquelyn Sanders-King, ALPN 3; Seminole Behavioral Healthcare
Donna Zubek, BSN, MBA; Otsuka America Pharmaceutical, Inc.
Jasmin Johnson, PsyD; Otsuka America Pharmaceutical, Inc.
Steve Offord, PhD;Otsuka America Pharmaceutical, Inc.

SUMMARY:
Introduction: Many patients with schizophrenia leaving in-

patient care have active symptoms of psychosis and severe social impairments so the time between discharge and introduction into community care, such as to CMHCs, is critical. Failure to continue in community care undermines important clinical benefits achieved during inpatient treatment, resulting in greater risk of relapse and rehospitalization and reduced quality of life. A previous study found that up to 65% of psychiatric patients failed to attend initial outpatient appointments following hospital discharge. Medication nonadherence can further complicate discharge and transition planning. Nonadherence is significantly correlated with recurrent rehospitalization in psychiatric patients and approximately 75% of patients become nonadherent to treatment within 2 years of hospital discharge. Nurse-centered discharge planning and homecare intervention have been shown to reduce rehospitalization rates, extend the time between discharge and readmission, and decrease health care costs in elderly patients at high risk for rehospitalization. Nurse-centered discharge planning may result in similar positive outcomes in newly discharged patients with schizophrenia who are at increased risk of rehospitalization.

Methods: Two case studies are used to examine challenges faced by psychiatric hospital nurses, case managers, and other treatment team members during discharge planning and to propose interventions to improve outcomes; one of which discusses use of long-acting injectable antipsychotics (LAIs). Also, 2 checklists are reviewed as useful tools for psychiatric nurses: (1) a checklist regarding considerations for hospital discharge and introduction to community care and (2) a checklist that helps the community nurse guide the patient in the autonomous management of their daily activities.

Results: Psychiatric hospital nurses are particularly essential during the discharge process and, by providing a comprehensive discharge plan to psychiatric patients, nurses facilitate the successful transition of these patients to community care. Therefore, medication planning is a fundamental part of discharge planning, whereas monitoring treatment adherence is a crucial part of community care. Inpatient psychiatrists working with the clinical team should consider the use of LAI for patients with multiple admissions. Administration of LAIs encourages regular contact between patients and community nurses, allowing for sufficient monitoring of treatment adherence by the nurse and increasing probability that patients follow the treatment plan.

Conclusions: Psychiatric hospital nurses and community mental health nurses play a vital role in managing patients with schizophrenia and coordinating with families and caregivers of those patients to ensure the overall continuity of care between inpatient and outpatient settings. Presentation supported by Otsuka Americal Pharmaceutical, Inc. and H. Lundbeck A/S.

NR12-12
DOES SERIOUS MENTAL ILLNESS INFLUENCE TREATMENT DECISIONS OF PHYSICIANS AND NURSES?

LEAD AUTHOR: DINESH MITTAL, M.D.
Co-Author(s): Greer Sullivan, MD
Christina Reaves, MPH
Xiaotong Han, MS
Snigdha Mukherjee, PhD
Scott Morris, PhD
Patrick Corrigan, PsyD

SUMMARY:

Introduction: Although at high risk for chronic medical conditions, persons with serious and persistent mental disorders, such as schizophrenia, receive poor care for their physical health problems. Relative to those without mental illness, persons with serious mental disorders receive sub-optimal medical, preventive, and specialty health care. While the reasons for this pattern are multi-factorial and complex, one potential contributor that has received very little attention is providers' stigmatizing attitudes about mental illness.

Bias on the part of health care providers has been documented in several areas, including bias related to gender, race, and socioeconomic status. The goal of this project was to assess the influence of serious mental illness on providers' decision-making about treatment; and to compare the effect of mental illness on the decision-making of four different provider types (primary care physicians, primary care nurses, psychiatrists, and mental health nurses).

Methods: To investigate provider bias among providers as a result of serious mental illness, we conducted a vignette survey study. The study was informed by a conceptual model based on extensive literature review. The model proposes that providers' practice behaviors (or, more precisely, behavioral intentions) and expectations represent a function of provider characteristics (including provider personality traits [specifically authoritarianism, empathy , and self-awareness], training and specialty) and stigmatizing beliefs and attitudes. The model holds that stigmatizing attitudes and beliefs are associated with hypothetical provider behaviors (defined as "outcomes" in this project), such as intention to refer patients for psychosocial rehabilitation or to weight reduction programs

Results: Results reveal that all provider groups (primary care and mental health doctors and nurses) viewed persons with SMI more negatively than they viewed persons without SMI on most attitudinal and behavioral outcome variables, including those related to treatment decisions. This finding suggests that stigma-reduction interventions that target all provider groups are needed.

NR12-13
EFFICACY OF A SCHOOL-BASED INTERVENTION ON BEHAVIOR AND SELF-ESTEEM: CEDARS-SINAI'S PSYCHOLOGICAL TRAUMA CENTER'S SHARE AND CARE PROGRAM

Lead Author: Suzanne Silverstein,
Co-Author(s): Reneh Karamians, MA
Enrique Lopez, Psy.D.
Anand Pandya, M.D.

SUMMARY:

INTRODUCTION: Childhood psychological trauma is associated with a variety of negative health and educational outcomes but there is limited data on interventions to mitigate these outcomes. The efficacy of the Cedars-Sinai Psychologi-

cal Trauma Center's Share and Care school based Mental Health program was evaluated with a diverse ethnic student population within the Los Angeles area schools. METHODS: Since the year 2000, students from elementary, middle and high schools who participated in the Share and Care program were assessed by their teachers using the Behavioral Academic Self-Esteem (BASE) rating scale (Coopersmith & Gilberts, 1982) at the beginning of each academic year. At the end of the school year the post-BASE was re-administered by the teachers for those participants who were in the program. A total of 1770 participated in a minimum of a 12-week Art Therapy structured group curriculum to deal with a traumatic event/stressor that has impacted their academic functioning. RESULTS: Hispanic and African American students had significantly greater improvements when compared to other ethnicities; however, all ethnic student groups improved after the intervention to varying degrees. CONCLUSIONS: A structured, school-based intervention was beneficial with diverse ethnic populations that have suffered a traumatic event.

NR12-14
TREATMENT OF A INDIVIDUAL WITH TRAUMATIC BRAIN INJURY AND SUBSEQUENT EMOTIONAL VOLATILITY WITH DEXTROMETHORPHAN/QUINIDINE

Lead Author: Tom Johnson, M.D.
Co-Author(s): Wagner, Joyce, PA-C; Geers, Michelle, Defense and Veterans Brain Injury Center, Shen, Joann LCDR, Public Health Service, Speech and Language Pathologists, Marine and Sailors Concussion Recovery Center; Garcia-Baran, Dynela, MD, Naval Hospital Camp LeJeune, North Carolina

SUMMARY:
Pathological laughing and crying, or pseudobulbar affect (PBA), has been described in patients with several neurological disorders, including traumatic brain injury (TBI). It is an under diagnosed condition characterized by inappropriate, uncontrollable episodes of laughing or crying after minor stimuli. These outbursts are embarrassing or unpleasant for the individual, and impair social and occupational function. Dextromethorphan/Quinidine (Nuedexta) has been shown to benefit patients with PBA due to amyotrophic lateral sclerosis, multiple sclerosis, and a variety of other neurological conditions.

We present a case of an individual who was assaulted and suffered a TBI. He has little memory of events around the time of the assault, but subsequent to the assault was able to return to a high level of function at home and at work. However, he did develop headaches, problems with memory, sleep, and changes in mood and affect, including outbursts of laughing and crying that had not happened before the assault and were embarrassing for him. Otherwise his neurological examination was essentially unremarkable. An MRI of the brain revealed an area of increased signal in the right frontal cortex that is consistent with a lesion resulting from a TBI. He was treated with a variety of standard medications and participated in cognitive, vestibular, and occupational health rehabilitation. In addition, he was started on Neudexta and reported that the Neudexta resulted in an improvement in his symptoms.

There is no evidence of that this individual suffered any harm from the use of Neudexta. He did report improvement in his symptoms with the medication, although it is not clear if his clinical improvement is due exclusively to the Neudexta. Further study is needed to evaluate individuals with changes in affect consistent with PBA after a TBI, particularly individuals who function at a high level and may have changes in mood and affect that are categorized as emotional volatility, depression, or PTSD and the diagnosis of PBA is not a part of the differential diagnosis and the use of Neudexta is not considered.

NR12-15
EMOTIONAL DISTRESS AND PSYCHIATRIC CO-MORBIDITY IN CANCER PATIENTS AT FIRST CONSULTATION IN A NATIONAL CANCER CENTER

Lead Author: Rathi Mahednran, M.Med.
Co-Author(s): Ms Joanna Chua
Clinical Psychologist, Department of Psychological Medicine, National University Health System

Professor Kua Ee Heok
Senior Consultant Psychiatrist, Department of Psychological Medicine, National University Health System

SUMMARY:
Prevalence of Emotional Distress in cancer patients ranges from a high of 43.4% in lung cancer to 29.6% for gynecological cancers. Prevalence of Depression is estimated at 16.3% and Anxiety, 10.3%. Distress and psychiatric disorders compound suffering and can be detrimental to decisions about treatment, adherence and outcomes. Additionally they prolong hospitalization and impact quality of life and survival. Amongst first consultations (N 59 in 3 months) at the National Cancer Institue of Singapore, mean Distress score was 3.46 (SD 2.87) (Distress Thermometer). There were subsyndromal symptoms of Anxiety and Depresssion (Hospital Anxiety Depression Scale); Anxiety score: 4.66 (SD 4.37) and Depression: 5.53 (SD 4.79). Patients' quality of life (EQ5D Scale) was significantly negatively correlated with both Anxiety ($r=-.320$, $p<0.05$) and Depression ($r=-.420$, $p<0.001$). However Anxiety and Depressionn symptoms did not have significant relationships with Distress levels or Stage of Disease. The findings reflect the importance of early screening for psychological symptoms amongst cancer patients.

NR12-16
FACTORS RELATED TO RECEIVING PSYCHIATRIC FOLLOW-UP CARE POST-DISCHARGE AMONG MEDICAID PATIENTS WITH SCHIZOPHRENIA TREATED WITH ANTIPSYCHOTIC THERAPY

Lead Author: Jacqueline Pesa, M.P.H., Ph.D.
Co-Author(s): Zhun Cao, PhD, Amanda M. Farr, MPH, David M. Smith, PhD, Jacqueline A. Pesa, PhD, MPH; Zoe Clancy, PharmD

SUMMARY:
Background: Half of discharged psychiatric patients experience delayed outpatient follow-up care, thus increasing the likelihood of poor outcomes. Recognizing the importance of transitions of care, the NCQA included the quality measure "follow-up after hospitalization for mental illness", with rates reported for the percentage of members who received follow-up within 30 days of discharge.

Objective: The primary objective of this study was to explore factors related to receiving psychiatric follow-up care post-discharge among Medicaid patients with schizophrenia treated with antipsychotic therapy in the inpatient setting.

Methods: Retrospective cohort study using inpatient hospitalization data linked with Medicaid administrative claims. Subjects were hospitalized between 7/1/2005 and 5/15/2011 with a schizophrenia diagnosis (ICD-9-CM 295.1-6, 8-9) and treated with antipsychotic medication, >18, continuously enrolled in Medicaid 6 months prior to hospitalization, and hospitalized for ?30 days. The primary outcome examined was time to follow-up psychiatric outpatient visit within 30 days post-discharge (HEDIS specifications), which was evaluated using Cox proportional hazards regression models controlling for baseline demographic and clinical covariates.

Results: A total of 1,312 patients were included: mean age 40.5 years, 53% male, 91% received an oral antipsychotic during hospitalization. Less than half (47%) of patients had a follow-up psychiatric outpatient visit within 30 days post-discharge (mean 18.3 days; median 21 days) and 68% had follow-up antipsychotic medication use within 45 days post-discharge (mean 19.9 days; median 16 days). Factors positively associated with having a follow-up visit included: capitated insurance (adjusted hazard ratio =1.29; 95% CI: 1.04-1.61), inpatient treatment by a psychiatrist/psychologist (1.29; 1.08-1.56), and higher number of pre-hospitalization antipsychotics (1.13; 1.08-1.12). The strongest predictor of follow-up visit within 30 days was hospitalization in later years (2010-11 vs. 2005; 2.70; 1.77-4.12). Diagnosed substance abuse (0.70; 0.54-0.90), inconsistent provider pre-to post-hospitalization (0.75; 0.63-0.91), and Southern region (vs. Northeast/North Central: 0.67; 0.53-0.83) were negatively associated with a follow-up visit. No significant association was found between type of antipsychotic used in the index hospitalization and the time to follow-up visit.

Conclusion: This study highlights the need for improvement in care transitions for Medicaid patients with schizophrenia. This may be achieved by improved discharge planning, especially for those patients who are at greatest risk for non-compliance regarding follow up care.

NR12-17

HEALTHCARE USE AMONG SCHIZOPHRENIA PATIENTS ON MEDICAID

Lead Author: Jeff Lange, Ph.D.
Co-Author(s): Anna Hassebroek, Chao-Yin Chen, Hong Sun, Patricia Corey-Lisle

SUMMARY:
Objective: Schizophrenia is a severe chronic disease that is the costliest of mental disorders (Furiak N et al, CMRO 27:713; 2011). Utilization and cost estimates often focus on schizophrenia as a homogenous condition. However for the individual patient, the level of positive symptoms or enduring negative symptoms and cognitive impairment may vary. Positive symptoms generally lead to more intensive services such as hospitalizations than negative symptoms (Sarlon E et al, BMC Health Serv Res 12:269; 2012). In this study, we estimated the variability in Medicaid utilization among schizophrenia patients by the stability of schizophrenia symptoms.

Methods: Using Medicaid claims data in 10 states (MarketScan Medicaid) for the years 2004-10, we identified three study groups among all Medicaid enrollees. Patients with unstable symptoms were defined by a hospitalization or emergency room visit for schizophrenia "unstable group". Schizophrenia patients with stable symptoms were without a hospitalization or emergency room visit "stable group". For context, a sample of patients "general group", who did not have a schizophrenia diagnosis, were included and matched on age, sex, and race to patients in the stable group. For all study subjects, we examined Medicaid healthcare claims during from the most recent 12 months of data for each patient within the data source.

Results: Of the 8.3 million Medicaid enrollees in data source, 68,534 (0.8%) were patients with schizophrenia. Demographically, the study population had a mean age of 42 years, 51% male, and 46% white. The three groups of unstable (n = 29,849), stable (n = 38,685), and general (n = 154,740) were of similar age, sex, and race. Mental health co-morbidities were more common in the unstable (39% diagnosed with substance abuse and 31% diagnosed with anxiety disorder) than in the stable (14% and 16%) and the general group (8% and 11%). Physical health co-morbidities were also more common in the unstable (28% diagnosed with diabetes and 50% diagnosed with injury in 12 month period) than in the stable (23% and 25%) and the general group (17% and 25%). For measures of utilization, the unstable had a greater mean number of hospitalizations for any mental or physical reason per year (1.8 events) than in the stable (0.2) or the general (0.3). In contrast for mean number of outpatient visits per year, both the unstable (45 events) and the stable (50) had many more events than the general group (17). For mean number of prescriptions filled per year, again both the unstable (61 prescriptions) and the stable (58) had many more events than the general group (31).

Conclusion: Medicaid utilization among patients varies by the

stability of schizophrenia symptoms. Whether the stability of symptoms can be used to clarify the contribution of positive and negative symptoms to utilization remains to be elucidated.

NR12-18
HIV INFECTIVITY OF T-LYMPHOCYTES EX VIVO IS DECREASED BY A FUNCTIONAL GLUCOCORTICOID ANTAGONIST (RU 486)

Lead Author: Tami D. Benton, M.D.
Co-Author(s): Steven D. Douglas, Joshua Blume, Kevin G. Lynch, Benoit Dubé, David R. Gettes, Nancy B. Tustin, David S. Metzger, David Flanagan, Serguei Spitsin, Angela Winters, Dwight L. Evans

SUMMARY:

Background:
Depression is frequently comorbid with HIV/AIDS and is associated with HIV disease progression. Elevations of serum glucocorticoids occur among HIV positive individuals and among depressed HIV negative individuals and may have a role in the pathogenesis of depression and HIV/AIDS. The glucocorticoid antagonist RU 486 has shown preliminary efficacy for the treatment of psychotic depression and for decreasing HIV infectivity of monocyte-derived macrophages (MDMs) in vitro. Using ex vivo models, we further investigated whether treatment of T-cells by RU 486 attenuated HIV infectivity in depressed and non-depressed HIV negative subjects.

Methods: 108 depressed and non- depressed HIV negative participants completed structured diagnostic psychiatric assessments (SCID) for the presence of depression, Hamilton depression rating scales (17 item) and medical evaluations. In this sample, 63 were female (58%) and 71 were African American (66%). Ages ranged from 18-57 (median 32 years). Subjects were excluded for medical comorbidities, current substance addiction, or use of psychotropic or immunomodulatory drugs in the four weeks prior to assessment. Monocyte-depleted PBMCs (T-cells) were incubated with a T-cell preferring strain of HIV-1 virus (IIIB). PBMCs were incubated with RU 486. Viral levels were assessed at day six post infection by real-time PCR measurement of HIV-GAG as a measure of HIV infectivity.

Results:
HIV infectivity in PBMCs was significantly decreased in RU 486 treated cells. There was a significant negative association between HIV –GAG levels and RU 486 ($p<0.0001$) across non-depressed control subjects and depressed subjects. This effect did not vary by subject characteristics (depression diagnosis, Hamilton score, race, gender or age). However, RU effects were dose dependent with greater effects observed at higher doses of RU (1x10-6M, 3x10-6M). This finding suggests that RU 486 decreases infectivity in T-cells among depressed and non-depressed individuals ex vivo.

Conclusions:
RU 486, a functional glucocorticoid antagonist, was associated with decreased infectivity of T-cells by the HIV virus ex vivo in HIV seronegative subjects. This association did not vary by depression diagnosis, depression severity, age, race or gender. Variations in RU 486 effects were evident with higher doses demonstrating greater reductions in HIV infectivity of T-cells ex vivo. Further studies are warranted to confirm these findings. Variations of HIV infectivity with RU 486 dose concentrations could be relevant for future ex vivo studies to understand underlying mechanisms of glucocorticoid antagonism and to determine if these effects translate to in vivo studies.

Supported by MH-082670, Depression Antidepressants and HIV Infectivity; PI: DL Evans
MH-060490, Clinical Research Scholars Program (CRSP); PI: DL Evans

NR12-19
IMPLEMENTATION PREFERENCES AMONG COMMUNITY PROVIDERS AND ADMINISTRATORS LEARNING AN EVIDENCE-BASED FAMILY INTERVENTION FOR BIPOLAR DISORDER

Lead Author: Bowen Chung, M.D.
Co-Author(s): Lisa Mikesell, PhD, Post-Doctoral Research Fellow, Center for Health Services and Society, Amber Piatt, BA, Center for Health Services and Society
Ira Lesser, MD, Professor
David Miklowitz, PhD, Professor, Integrated Study Center in Mood Disorders
Semel Institute for Neuroscience and Human Behavior, Geffen School of Medicine at UCLA.

SUMMARY:

Objective: Evidence-based practices (EBP) like Family-Focused Therapy (FFT) can improve outcomes for adolescents and young adults with bipolar disorder and psychosis, but little is known about how to implement FFT in community settings. We present results from a mixed-methods pilot study to understand staff perspectives on EBPs and FFT trainings from publicly-funded, mental health clinics.Methods: Data was collected from surveys of providers (n=21) and focus groups of providers and administrators (n=26) participating in trainings during a study to adapt FFT to enhance implementation fidelity in community settings. Survey data included provider demographics (age, gender, education, ethnicity), years of clinical experience, responses to the Evidence-based Practice Scale (EBPS-Aarons, 2004), and perceived training effectiveness. Focus group data conducted pre- and post-training captured provider and administrator perceptions of EBPs. Survey data analysis focuses on descriptive statistics. Qualitative analysis of focus groups utilized thematic content analysis using a grounded theory approach. Coding agreement was ?=.760. Results: Provider mean age was 36.8 years (SD=12.4); 16.7% (n=4) staff were male. Close to half (n=10, 41.7%) had a master's degree. More than half the providers were White (n=11, 52.4%), 19% (n=4) Latino, 14.3% (n=3) Asian American, 9.5% (n=2) other, and 1 was

African American. Nearly two-thirds (n=10, 38.5%) were licensed therapists and 19.2% (n=5) were trainees. On average, the providers had 7.4 (SD=9.1) years of clinical experience. All had participated in ?1 prior EBP training and scored above the national mean on all EBPS subscales. Perceived effectiveness of FFT training was 4.9 (1-Poor to 5-Excellent). Challenges with EBPs included: 1) time and effort required to learn and implement EBPs well, 2) balancing EBP requirements with clinic goals for productivity; and 3) EBPs' inability to address less "realistic" patient problems like noncompliance. Successful EBPs were described as: 1) allowing clinicians to have adequate support from both peers and supervisors; 2) offering flexibility; 3) detailed and structured; and 4) entailing close monitoring and constant supervision. Conclusions: FFT training participants had more positive attitudes towards EBPs compared to therapists nationally. Staff and administrator's responses in focus groups build on prior findings about perceived facilitators and barriers to EBP implementation reported in the literature. Data support previous findings in raising concerns about EBPs that follow a "cook book" approach, being inflexible and not allowing for modification (Forsner et al., 2010). Further work is needed to understand the relationship between provider and administrator attitudes towards EBPs, factors facilitating implementation, challenges to adaptations of EBPs, fidelity to therapy manuals, and clinical outcomes in community implementation studies versus academic-based trials.

NR12-20
IMPROVING QUALITY OF CARE: REDUCING NO-SHOW RATE IN AMBULATORY PSYCHIATRIC CLINIC

Lead Author: Prashant Gajwani, M.D.

SUMMARY:
No show rates in our ambulatroy clinics were approx 30%. this adversly affects patient care, reduces compliance to medications and treatment recommendations, worsens provider morale, increases use of emergency/walk in clinics, increases patients symptom worsening due to running out of meds and increase use of emergency lines for routine med refills requests and also adversly affects financial health of the institution.
This project was initiated with target of reducing no-show rate in academic ambulatory clinic from 30% to 20%.
Methods: a team was created and all involved agreed to make certain changes in the operations of the clinic. Provider and client issues which potentially results in high no show rate were identified. Patient satisfaction data were also collected with specific issues resulting in no-shows.
Results: This project demonstrates that operational changes can reduce the no-show rates in psychiatric clinics which treat chronically ill patients. we were able to reduce our no-show rates to 11%. Although the no-show rate varies weekly, new operational system was effective in improving patient care
Discussion: Psychiatric clinics can improve medication compliance and reduce no-show rates if communication between providers and patients is improved, if patients are informed of the expectations during treatment and by employing personal touch of live call reminders rather than automated machine generated calls.

NR12-21
INCIDENCE OF TARDIVE DYSKINESIA: A COMPARISON OF LONG-ACTING INJECTABLE AND ORAL PALIPERIDONE

Lead Author: Srihari Gopal, M.D., M.H.S.
Co-Author(s): Xu, Haiyan, PhD; Bossie, Cynthia PhD; Buron Vidal, José Antonio, MD; Fu, Dong Jing, MD, PhD; Savitz, Adam, MD; Nuamah, Isaac, PhD; Hough, David, MD

SUMMARY:
OBJECTIVE: To estimate the incidence of tardive dyskinesia (TD) in long-term studies of once-monthly injectable paliperidone palmitate (PP) and oral paliperidone (Pali ER) using Schooler-Kane criteria and spontaneously reported adverse events (AE).

METHODS: Patient level data were pooled from completed schizophrenia and bipolar studies (four PP [N=1689] and six Pali ER [N=2668]) of ?6 months duration that included Abnormal Involuntary Movement Scale (AIMS) assessments. Cases of TD based upon Schooler-Kane criteria defined for probable TD and persistent TD were determined using AIMS total score (items 1-7). Patients scoring ?2 on two or more items or ?3 on at least one item were considered to have qualifying scores for either probable or persistent TD. Probable TD cases included patients with qualifying AIMS scores for ?3 months, and persistent TD cases included those patients with qualifying AIMS score persisting for an additional 3 months (?6 months total). Subjects were exposed to study medications through the entire assessment period. Adverse event reports of TD were summarized. TD incidence was calculated in treatment-emergent cases only. Impact of duration was assessed by summarizing the monthly incidence rate of dyskinesias with AIMS total score ?3.

RESULTS: In schizophrenia studies, TD incidence was reported for PP (N=1689) vs. Pali ER (N=2054), respectively as: AE, 0.18% vs. 0.10%; probable, 0.01% vs. 0.19%; and persistent, 0.01% vs. 0.05%. In bipolar studies (Pali ER only [N=614]), TD incidence was zero (for spontaneous AE reporting, probable and persistent TD). Incidence of dyskinesias (total AIMS score ?3) was highest within the first month of treatment with both formulations (PP: 13.1%; Pali ER: 11.7%) and steadily decreased over time (for months 6-7: PP: 5.4%; Pali ER: 6.4%).

CONCLUSIONS: In this post-hoc analysis, risk of TD and incidence of dyskinesias was similar between PP and Pali ER treatments. Long-Term TD risk appeared to be similar regardless of route of administration. Longer cumulative exposure did not appear to increase dyskinesia risk.

NR12-22
IS INTENT OR SUFFERING THE SECRET OF HIGH ATTENDANCE IN MINDFULNESS STRESS REDUCTION: MBSR FOR PSYCHIATRIC PATIENTS?

Lead Author: Karin Ekdahl, M.D., Ph.D.
Co-Author(s): Nils Joneborg, MD, Ersta Dept Psychiatry
Alexander Wilczek, MD, PhD, Ersta Dept Psychiatry & Karolinska Institutet
Irena Makower, Assoc Professor, Evidens Research & Development Center, Gothenburg
Lauri Nevonen, Assoc Professor, Järvapsykiatrin

SUMMARY:
Introduction
Mindfulness Based Stress Reduction (MBSR) developed 25 years ago by Dr Kabat-Zinn has shown effects in somatic conditions. The method is increasingly used treating psychiatric disorders. In a study of 684 patients enrolled in MBSR programs because of somatic disorders, 76% completed. Kabat-Zinn suggests that one mechanism that may have reinforced patient's motivation to complete is self-efficacy experiences. However, for patients with severe mental illness, adherence to treatments may be challenging just because of difficulties with change, decision making, intentionality, commitment, i.e., self-efficacy. Another idea of motivation is that individuals pass along stages: pre-contemplation, contemplation, determination, action, and maintenance.
Methods
Program: MBSR was offered at an outpatient psychiatric clinic. MBSR is a 9-session-, operationalized secular, condensate of techniques for mindful awareness manual.
Subjects: 31 patients (9 m, 22 f) with psychiatric disorders, were suggested MBSR by their doctor or therapist, as adjuvance. Approval by Ethics Board.
Intent scale: Bandura coined the term" self-efficacy". The current Self-efficacy Intent scale is developed according to Bandura's "Guide for constructing self-efficacy scales".
Results: There was significant correlation between self-reported intent to pursue MBSR and attendance (Spearman, R=0,50). Furthermore, we noted a higher attendance rate (89%) compared to reported prospectively measured visits (40%) in psychiatric care.
Discussion: We noted higher attendance than for patients with psychiatric diagnoses in open clinics. Also a comparison may be made to MBSR completion for somatic illness. The reason for that may be the screening with the Self-efficacy Intent scale which both excluded patients who were in pre-contemplation states as well as made patients aware of their own motivation. Furthermore, our patients, supposedly engined by suffering, which in turn creates a need for change, do attend when this need is accordingly met by the MBSR program. Caution is warranted that patient selection may exclude just those individuals most in need for MBSR creating a catch 22 since pre-contemplators seldom present for treatment. We still consider it ethical important to treat those, we would therefore like to explore an additional intervention that still does not force a person towards change. That may in addition further highlight whether attendance is a measure of motivation or an indicator of the degree participants found MBSR useful.

NR12-23
MEDICAL DETERIORATIONS AFTER ELECTRO-CONVULSIVE THERAPY IN A 1000-INPATIENT CONSECUTIVE COHORT

Lead Author: Eugene Grudnikoff, M.D.
Co-Author(s): Dr. Peter Manu M.D., Department of Psychiatry, Hofstra North Shore – Long Island Jewish School of Medicine at Hofstra University

SUMMARY:
Background: The risk of medical deteriorations after electro-convulsive therapy (ECT) has been assessed in uncontrolled evaluations of cohorts who had underwent the treatment, but has not been the focus of a controlled study in unselected psychiatric populations.

Objective: To compare the frequency and type of medical deteriorations of inpatients receiving ECT and of a control group of patients admitted for inpatient psychiatric care.

Methods: We conducted a structured review of 1000 consecutive inpatient admissions to a free-standing psychiatric hospital occurring between 2010 and 2011. Transfer to a general hospital emergency department (ED) from the psychiatric hospital was used as a proxy for significant medical deteriorations.

Results: Fifty-nine patients received ECT (336 total treatments, mean 5.7 treatments and range 1-20 treatments per patient). Eight ECT patients had 10 unique adverse events that required transfer to the ED (17.0%). Among patients who had a significant medical deterioration following ECT treatment (mean age 73 yrs, SD: 13 yrs), the most common reasons for ED transfer were fever (n=4), falls (n=3) and other neurological events (n=2). Medical deteriorations took place on average 4.7 +/-10.4 days after last ECT treatment (range: 0-37 d). One medical deterioration involved a non-sustained ventricular tachycardia occurring during ECT treatment.
Of the 941 inpatients not treated with ECT, 134 (14.3%) had a medical deterioration, frequency similar to that of ECT patients (p=0.57). The frequency of medical deteriorations remained comparable between the groups when controlling for age greater than 65 years ($p<0.36$), the presence of coronary artery disease ($p<0.73$) and hypertension ($p<0.32$).

Conclusions: Frequency of significant medical deteriorations in a free-standing psychiatric hospital was comparable between inpatients receiving ECT and those receiving other treatments. Most adverse events were preventable and there was only one self-resolving serious cardiovascular event.

NR12-24
MULTIPLE GENE PSYCHIATRIC PHARMACOGENOMIC TESTING IMPROVES PREDICTION OF HEALTH UTILIZATION AND ANTIDEPRESSANT RESPONSES COMPARED TO SINGLE GENES

Lead Author: C. Anthony Anthony Altar, Altar, Ph.D.
Co-Author(s): J. D. Allen1, D. A. Mrazek2 and D. K. Hall-Flavin2, 1 AssureRx Health, Inc. and 2 Dept. of Psychiatry, Mayo Clinic, Rochester, MN.

SUMMARY:
Background: Prior studies have shown that greater health care utilizations over one year (Winner et al, in press) and poorer antidepressant efficacy during 8 weeks (Hall-Flavin et al, 2012; submitted; Altar et al, Ab. Soc. Biol. Psych., 2012) can be identified by a pharmacogenomic test, GeneSightRx Psychotropic, that combines allelic variations in a patient's genes for CYP2D6, CYP2C19, CYP2C9, CYP1A2, SLC6A4, and HTR2A. We compared these findings with the integrated multi-variant test with results obtained using traditional, single gene analysis for patients taking at least one of 26 antidepressant or antipsychotic medications.
Methods: A one year, retrospective chart review was conducted in which 8 health care utilization outcomes were tracked for 93 subjects with depressive or anxiety disorders. In a second, prospective study, 83 subjects were treated with antidepressants for 8 weeks and clinical outcomes were measured by the Quick Inventory of Depressive Symptomatology-Clinician Rated (QIDS-C). In both studies, subjects were treated without knowledge of their pharmacogenomic results. Based on DNA analysis, each patient was characterized by a 5- or 6-gene multi-variant test with an interpretive report in which each of the 26 psychotropic medications were arrayed in either or 3 color-coded bins, red ("Use with caution and more frequent monitoring"), yellow ("Use with caution") or green ("Use as directed"). Subject outcomes were also characterized by the traditional phenotype determined for each gene (e.g., PM, IM, EM or UM for CYP2D6).
Results: More total healthcare visits ($p = 0.01$), medical visits ($p = 0.03$), medical absence days ($p = 0.04$), and disability claims ($p = 0.01$) were made by subjects who were identified by the 6 gene-based report to be taking red binned medication(s), than subjects taking green- or yellow-binned drugs. When the 6 genes were evaluated separately, only CYP2D6 showed a significant association between phenotype, and for only one of the 8 health utilization outcomes, with IM subjects performing better than PM ($p = 0.029$) or EM ($p = 0.046$) subjects. In the 8 week prospective efficacy study, the 18 subjects identified by the 5 gene interpretive report to be taking red binned medication(s) showed smaller symptomatic improvement ($p < 0.01$) compared with the 65 subjects on less problematic yellow and green-binned drugs. In contrast, no single CYP2D6, CYP2C19, CYP1A2, SLC6A4, or HTR2A gene analysis predicted antidepressant response at 8 weeks.
Conclusions: Single genes whose nucleotide variations predict variance in psychiatric drug metabolism or response, when combined in an interpretive multi-gene algorithm, better predict clinical improvements and reduced health utilizations than when the same genes are analyzed individually according to their customary phenotypic classification.

NR12-25
PREVALENCE OF MENTAL DISORDERS AMONG PRISONERS IN THE STATE OF SÃO PAULO – BRAZIL.

Lead Author: Sergio Baxter Andreoli, Ph.D.
Co-Author(s): Santos, M.M.; Ribeiro, W.S.; Quintana, M.I.; Blay, S.L.; Taborda, J.G.V.; Mari, J.J.

SUMMARY:
Epidemiological studies conducted with prisoners in several countries have shown a high prevalence of mental disorders. In Brazil, the State of São Paulo alone holds approximately 40% of the prisoners in the country, but epidemiological studies on mental disorders in this population are scarce. Objective: To determine the prevalence of psychiatric disorders in the prison population in the State of São Paulo, Brazil. Methods: Through stratified random sampling, 1,192 men and 617 women prisoners were evaluated for the presence of psychiatric disorders by the Composite International Diagnostic Interview, 2.1 version, according to definitions and criteria of International Classification of Diseases (ICD-10). The prevalence estimates of mental disorders and their respective 95% confidence intervals were calculated and adjusted for sample design through complex sample analysis. Results: Lifetime and 12-month prevalence rates differed between genders. Lifetime and 12-month prevalence of any mental disorder was, respectively, 68.9% and 39.2% among women, and 56.1% and 22.1% among men. Lifetime and 12-month prevalence of anxious-phobic disorders was, respectively, 50% and 27.7% among women and 35.3% and 13.6% among men, of affective disorders was 40% and 21% among women and 20.8% and 9.9% among men, and of drug-related disorders was 25.2% and 1.6% among women and 26.5% and 1.3% among men. For severe mental disorders (psychotic, bipolar disorders, and severe depression), the lifetime and 12-month prevalence rates were, respectively, 25.8% and 14.7% among women, and 12.3% and 6.3% among men. Conclusions: This study, which was performed with a representative prison population, showed high rates of psychiatric disorders among men and women. Epidemiological studies on mental health needs of prisoners are crucial for planning and development of appropriate health care programs for specific prison populations.

NR12-26
OUTCOMES OF A CULTURALLY APPROPRIATE COMMUNITY-BASED PROGRAM FOR ELDERLY CHINESE AMERICANS WITH CHRONIC DISEASES

Lead Author: Yifan Lu, M.D., M.S.
Co-Author(s): DiPierro M, Chen L, Chin R, Fava, M, Yeung, A

SUMMARY:
Objective: This study evaluates the effectiveness the health

effects of a community-based program which targets under-served Chinese American immigrants with chronic illnesses.

Methods: In 2011, ninety-nine subjects (42% male, mean age 70.6±5.8 years) with chronic medical diseases participated in a "Healthy Habits" program. The "Healthy Habits" Program is a six-month community-based program which offers exercise facilities and training and weekly health education discussion group to under-served Chinese-Americans in their native languages. Assistance was offered to participants who had financial hardship. Before and after the program, the participants were assessed in their physical health using body weight, blood pressure, single foot standing test, chair standing test, mental health using the Patient Health Questionnaire-9 item (PHQ-9) scale and disability/functioning scales using WHO Disability Assessment Schedules-II (WHODAS-II) and UN Washington Group Disability Scales. The outcomes were analyzed using Intent-to-treat analysis with McNemar's test, and chi-square tests.

Results: Participants of the program obtained significant improvements in physical and mental health. The body weight decreased from 141.1±21.0 lbs to 139.0±20.7 lbs with a difference of -2.2 lbs (P<0.0001), BMI decreased from 25.1±3.4 kg/m2 to 24.7±3.3 kg/m2 with a difference of -0.5 kg/m2 (P<0.0001), systolic blood pressure decreased from130.2±12.3 mmHg to 124.6±9.8 mmHg with a difference of -5.8 mmHg (P<0.0001), diastolic blood pressure decreased from 79.2±8.0 mmHg to 76.1±7.2 mmHg with a difference of -2.8 mmHg (P<0.01), chair standing test increased from 14.9±4.4s to 18.4±4.0 seconds with a difference of +3.3s (P<0.0001), one leg standing test (left) increased from 27.4±21.4s to 35.6±21.6 with a difference of +8.5 seconds (P<0.0001), one leg standing test (right) increased from 30.2±21.5s to 37.1±22.6 seconds with a difference of +8.2 seconds (P=0.0001), PHQ-9 decreased from 3.5±4.5 to 2.7±3.8 with a difference of -0.69(P<0.05). The WHODAS-2 measure of disabilities in activities of daily living and UN Washington Group disability didn't show significant differences between baseline and the last assessment.

Conclusions: This study showed promising results of a culturally appropriate community-based program to improve the health and well-being of elderly Chinese Americans with chronic diseases.

NR12-27
POST-ICTAL EEG SUPPRESSION DURING EARLY COURSE OF ECT PREDICTS CLINICAL IMPROVEMENT IN BIPOLAR DISORDER

Lead Author: Gopalkumar Rakesh, M.B.B.S., M.D.
Co-Author(s): Dr BN Gangadhar
Dr Jagadisha Thirthalli
Dr C Naveen Kumar
Dr Muralidharan Keshavan
Mr Vittal Candade

SUMMARY:
The extent of post-ictal suppression of electroencephalography (EEG) of electroconvulsive therapy (ECT)-induced seizures is known to predict antidepressant response to ECT. In this study we examined the association between the post-ictal EEG suppression and response to ECT.The sample for this study came from a randomized controlled trial examining the effect of co-prescription of anticonvulsant mood stabilizers during ECT. The sample comprised 48 patients randomized to three groups with stopping, halving or continuation of anticonvulsant mood stabilizer medications. EEG recording of the second or third ECT session was analyzed using a standard algorithm to measure fractal dimension (FD) as a measure of amplitude. Clinical improvement was assessed using Clinical Global Impression (CGI) severity scale. There was a significant inverse correlation between post-ictal FD and improvement in CGI severity scale scores. (Spearman's Rho = 0.471, p=0.034).

NR12-28
PRELIMINARY REPORT OF A HOSPITAL BEHAVIORAL CRISIS RESPONSE TEAM LEAD BY PSYCHIATRY

Lead Author: Cheryl A. Kennedy, M.D.
Co-Author(s): Peter Sangra, MD; Ritesh Amin, MD; Nancy Rodrigues, BA

SUMMARY:
Background: Behavioral crises are sensitive and difficult incidents in hospitals. Lack of training may lead responders like security personnel to intervene using physical restraint, when, a verbal, environmental or pharmacological intervention may have been successful. Also, doctors or nurses may lack adequate training in safe physical restraint, leading to dangerous outcomes for patients and health care staff. In response to a recent NJ law, our tertiary care, academic, inner-city medical center developed a multi-disciplinary Crisis Response Team (CRT) for medical-surgical units and Psychiatric units. The behavioral CRT is a 24/7 'on-call' team composed of the patient's primary nurse (most commonly activates the CRT), a Psychiatrist, a Psychiatric nurse specialist, Psychiatric aide, and a Uniformed Public Safety Officer. The team piloted in June 2010 and was finalized in December 2010. We evaluated how the teams followed policy and procedure over a 26 month period to determine completeness of documentation (following policy and procedure), what variables may influence calls or outcomes of calls (demographics, admitting diagnosis, intervention used, co-morbid psychiatric diagnosis, etc.)
Method: We did a retrospective review of operator call logs & patient records of CRT calls from June 2010 to August 2012. Some variables studied were number of calls per day, type of disturbances, gender, age, location, number of responders, diagnosis, medication used, use of restraints along and proper documentation of the incident.
Results: During the study period, calls to CRT were 42 (2010; 6 months), 49 (2011), & 97 (2012; 8 months) for a total of 188 calls. There was a 10% increase in calls dur-

ing night shifts (7:00 PM to 5:00 AM) accounting for 54.9% (n=184), compared to the day shift (45.1%). Aggression or combativeness calls were most frequent (26.4%; n=140); next was agitation (22.9%), and verbal aggression (15%). Majority of calls were for males 75.3% (n=97) and the most common age group was 31 to 50 (46.8%; n=94). Restraints were used 62% of the time (n=90); top three locations for CRT calls were Psychiatry Inpatient Unit (16%), Emergency Department (15.5%), and Neurology Stroke Unit (11.3%). Discussion: Psychiatrists have a prominent role in resolving behavioral crises. Our calls nearly doubled since the initiation & may represent more awareness of the program and the prompt response rate of the CRT (less than 5 minutes). Preliminary results show significant amounts of missing data & point to the need for more investigation and analysis to determine if specific incident problems, diagnoses or skills of healthcare team resulted in documentation failure. We can now target awareness and specific skill training so patients can have a safer environment and health care providers feel more confident when these incidents occur.

NR12-29
PREVALENCE AND COMORBIDITY OF ALCOHOL DEPENDENCE, DEPRESSION AND ANXIETY DISORDERS AND THEIR ASSOCIATION WITH THE SEROTONIN TRANSPORTER GENE

Lead Author: Ruben Miozzo, M.D., M.P.H.
Co-Author(s): O. Joseph Bienvenu, MD, PhD
Associate Professor, Psychiatry and Behavioral Sciences
Johns Hopkins University School of Medicine

Jack Samuels, PhD
Assistant Professor,. Psychiatry and Behavioral Sciences
Johns Hopkins University School of Medicine

William W Eaton, PhD
Professor, Department of Mental Health
Bloomberg School of Public Health

Gerald Nestadt, MD MPH
Professor, Psychiatry and Behavioral Sciences
Johns Hopkins University School of Medicine

SUMMARY:
Alcohol dependence, depression and anxiety disorders are amongst the most prevalent psychiatric disorders. These conditions have been found to be highly co-morbid in epidemiologic studies and in clinical practice. This co-morbidity presents a major challenge to our current psychiatric nosology, as it undermines the validity of our diagnostic classification. It is also a hindrance to the advance of etiological research and the development of new treatments.

The serotonin transporter gene (5HTT) has been a major focus in the area of psychiatric genetics. The presence of a "short" (s) allele results in a reduced serotonin reuptake function in a carrier. The presence of the short allele has been found to be associated with an increased prevalence of major depressive disorder, bipolar disorder, anxiety disorders, as well as personality disorders.

We examined the lifetime prevalence and of co-morbidity of Alcohol Dependence, Major Depressive Disorder, Bipolar Disorder, as well as several anxiety disorders in a sample of the Baltimore Epidemiologic Catchment Area Survey (ECA) Follow-up Study. All subjects were evaluated by a psychiatrist using the Schedules for Clinical Assessment in Neuropsychiatry (SCAN). The combination of genetic information obtained in this sample, together with a comprehensive psychiatric assessment on a large sample of subjects using standardized instruments gave us an exceptional opportunity to determine this association

NR12-30
PREVALENCE AND CORRELATES OF DISRUPTIVE MOOD DYSREGULATION DISORDER (DMDD) DIAGNOSES IN ADOLESCENT INPATIENTS WITH CLINICAL BIPOLAR DIAGNOSES

Lead Author: David L. Pogge, Ph.D.
Co-Author(s): Martin Buccolo, PhD
Philip D. Harvey, PhD

SUMMARY:
Background. The DSM 5 committee has proposed a new childhood disorder, called Disruptive Mood Dysregulation Disorder (DMDD). This condition is proposed to be marked by intense temper outbursts superimposed on a background of persistent depressed or irritable mood. As many admissions to inpatient care for children and adolescents are due to temper outbursts and aggression, we used a large database of adolescent inpatient admissions to examine the prevalence and correlates of adolescents who had these characteristics. In line with previous reports of diagnostic issues with bipolar disorder, we focused on this diagnosis
Methods. During a two-year period 1505 adolescent psychiatric patients were admitted to a private psychiatric hospital and 259 of these cases received a diagnosis of bipolar disorder. We then selected those cases who were rated by their clinicians as having at least moderate depression at the time of admission, severe symptoms of hostility and explosiveness, but no signs of elation or euphoria at the time of admission. We excluded all cases who had evidence of other possible confounding factors or any missing data on any outcomes measures and compared the adolescents with and without DMDD on several different variables. These included the frequency of bipolar subtype diagnoses; the likelihood of receiving an intervention involving restraint or seclusion during their admission; the number of restraint and seclusion episodes; global ratings of psychopathology and changes during admission; and length of inpatient stay.
Results. 174 cases were available for comparison. Of these cases, 110 did not meet DMDD criteria (63%) and 64 (37%) did. Cases with a putative diagnosis of DMDD had a 30% likelihood of experiencing restraint or seclusion during their

admission, compared to 20% of cases without this putative diagnosis ($p<.05$). The number of restraints and seclusions averaged 1.5 for DMDD cases, compared to 1.0 for other cases, $p<.05$. DMDD cases had a significantly longer length of stay than other cases, 24.4 vs.20.6, $p<.04$ and global psychopathology rated by their clinicians on the GAF was more severe at the time of discharge (44.5 vs. 50.0). The subtype diagnoses of BPI were bipolar disorder NOS for more than half of the patients in each DMDD subgroup.
Discussion: In this study of adolescent inpatients diagnosed as having bipolar disorder a subgroup without euphoric symptoms who manifest explosiveness, hostility, and concurrent depression can be identified. These cases constitute more than a third of all cases who received a bipolar diagnosis and suggest that the diagnosis of bipolar-I disorder is routinely given to adolescent cases who do not show signs of elevated mood. Cases with this putative diagnosis have a more adverse course of hospital stay and are more symptomatic at discharge than other adolescents treated in the same facility.

NR12-31
PROMOTING HEALTH THROUGH THE BEAUTIFUL GAME: A FOLLOW-UP ANALYSIS OF STREET SOCCER PARTICIPATION ON THE RESIDENTS OF VANCOUVER'S DOWNTOWN EASTSIDE

Lead Author: Lurdes Tse, M.Sc.
Co-Author(s): Alan T. Bates, M.D., Ph.D., Arun Agha, B.Sc., Heidi N. Boyda, Ph.D. Candidate, Alasdair M. Barr, Ph.D., William G. Honer, M.D., Fidel Vila-Rodriguez, M.D.

SUMMARY:
INTRODUCTION: Street Soccer is a worldwide phenomenon that re-engages marginalized or socially disadvantaged people affected by homelessness, mental illness and addictions. Since the creation of the first Street Soccer team in Vancouver's Downtown Eastside four years ago, we have observed changes in our players that indicate not just physical, but mental health and psychosocial benefits. In order to learn more about how Street Soccer is positively impacting the health of these individuals, we systematically assessed the effects of Street Soccer participation on players' perceptions of their own health and well-being.

METHODS: We performed a cross-sectional, self-reported survey using a pen-and-paper questionnaire. Questionnaires were completed at games. Players were offered the alternative of a verbal interview so that no player would be excluded due to illiteracy or language barriers. The format of the questionnaire was modified from standardized assessments (like the Short-Form 36). The items were constructed by the authors, and were selected for their relevance to this population. Frequency counts, one-sample chi-square analyses, and Wilcoxon signed-rank tests were used to analyze the data.

RESULTS: A total of 75 players responded to the questionnaire. The players were mostly men (72.2%) and had an average age of 32.4 years (range between 17-60 years). Most players had either been involved with Street Soccer for over 1 year (30.1%), or less than 1 month (24.7%). Players reported that compared to the year before starting Street Soccer, cigarette smoking was significantly decreased, and general and physical health were significantly improved ($p < 0.001$). Mental health and other substance use were reported to be unchanged. Significant improvements in housing, number of friends, and frequency of positive feedback were also reported ($p < 0.001$). Most players agreed that they enjoyed the physical exercise (87.5%) and the company (91.5%), that Street Soccer gave them a sense of routine (81.7%), and that playing Street Soccer gave them a sense of pride in themselves (91.7%). Approximately 54% of unemployed players attributed their unemployment to emotional or mental health reasons.

CONCLUSIONS: Participation in Street Soccer appears to have considerable physical and social benefits on players, including improvements in general and physical health, housing, and social networks, and seems to contribute to the players' self-confidence. We suspect similarities between Street Soccer and group therapy, including meeting the same people regularly in a safe and supportive environment, contribute to its effectiveness in inducing positive change. Further research is needed to elucidate the mechanisms mediating this therapeutic effect.

NR12-32
PROMOTING HEALTH THROUGH THE BEAUTIFUL GAME: HEALTHCARE WORKERS' VIEWS ON PEOPLE AFFECTED BY HOMELESSNESS

Lead Author: Heidi Noel Boyda, B.Sc.
Co-Author(s): Tse, L., Raber, S., Bates, A., Agha, A., Honer, W.G., Barr, A.M., Vila-Rodriguez, F.

SUMMARY:
BACKGROUND: Street Soccer is a grassroots initiative that supports social inclusion and health promotion of marginalized persons affected by homelessness, mental illness and drug addictions. Medical trainees and physicians were invited to participate in soccer games competing with street soccer players as part of the program activities. The goal of the study was to understand what effect participating in this activity had on healthcare workers perceptions about street soccer players.
METHODS: Healthcare workers were invited to attend a local Street Soccer tournament and were asked to complete a self-report questionnaire after participation. The 14-item questionnaire was structured to select for information regarding demographics, past and present community involvement, changes in perceptions of people affected by homelessness, and feedback about the event. Frequency counts and one-sample chi-square analyses were used to analyze the data.
RESULTS: Twenty-six healthcare participants responded to the questionnaire. The participants were 69.2% male and had an average age of 29.4 years (range between 20 – 58 years). Participants consisted of medical students (53.8%), residents (15.4%), and attending physicians (11.5%). At the time, 53.8% of the participants were currently involved in community initiatives, devoting 1 to 3 hours per week of their

time (26.9%). Overall, healthcare workers reported a positive change in their attitudes regarding the physical activity of the players. Significant increases in the estimate of average physical fitness ($p<0.001$) and athletic skills ($p<0.001$) were reported. Conversely, participants reported no change in their perceptions of the burden of mental and physical illness ($P<0.01$), and most participants found no change in their perception of aggression in people affected by homelessness (61.5%).
CONCLUSIONS: In summary, our results indicate that active community engagement with marginalized individuals supports a positive change in attitude towards the physical capabilities of Street Soccer players. By becoming directly involved in a team sport, healthcare workers can connect with individuals outside of their clinic-based settings. Importantly, using such an approach with medical trainees may help protect against the tendency to stereotype patients who are part of a stigmatized group and may also encourage medical trainees to pursue careers that involve serving this under-resourced population.

NR12-33
PROMOTING HEALTH THROUGH THE BEAUTIFUL GAME: THE ATTITUDES AND PERCEPTIONS OF VANCOUVER STREET SOCCER LEAGUE VOLUNTEERS

Lead Author: Arun Agha, B.Sc.
Co-Author(s): Alan T. Bates, MD, PhD, Lurdes Tse, MSc, Heidi N. Boyda, PhD Candidate, William G. Honer, MD, Alasdair M. Barr, PhD, Fidel Vila-Rodriguez, MD

SUMMARY:

INTRODUCTION: The high prevalence of mental disorders, addictions, and social disadvantage in residents of Vancouver's Downtown Eastside poses a significant barrier for these individuals to engage in the practice of team sports. The Vancouver Street Soccer League, a grassroots volunteer-run initiative, is a low barrier program providing access to the practice of sport. We were interested in understanding how volunteers perceived Street Soccer players after engaging in their volunteer activities with the league.
METHODS: Volunteers were asked to complete a cross-sectional, self-report survey. The survey consisted of 25 questions representing 6 domains including demographics, length of involvement and team membership, feedback, changes in perceptions of homeless people, perceived effects of Street Soccer on players, and effects of Street Soccer on themselves. Frequency counts and one sample Chi-Square tests were performed on the data.
RESULTS: Thirty-two volunteers returned surveys (N=32). Volunteers' ages ranged from 20 to 66 years. The majority of volunteers (53.1%) had been involved for one year or more. Overall, volunteers reported a positive change in their perceptions of those affected by homelessness since becoming volunteers. This includes a significantly more positive view of physical fitness ($p<0.001$), athletic skills ($p<0.001$), communication skills ($p=0.001$), intellectual ability ($p=0.048$), and life experience and knowledge ($p=0.001$). A non-significant increased estimate of the burden of mental illness ($p=0.053$) and a significant increased estimate of the burden of physical illness ($p=0.002$) was noted. Similarly, a significant majority of volunteers agreed that Street Soccer improves housing for players ($p<0.001$), helps players obtain better employment ($p<0.001$), reduces how often they smoke cigarettes ($p<0.001$), drink alcohol ($p<0.001$), and use illegal/recreational drugs ($p<0.001$), and increases their number of friends (100% of volunteers agreed) and their self-esteem ($p<0.001$). Volunteers also associated Street Soccer participation with having positive effects on themselves. A significant majority agreed that Street Soccer participation developed and/or strengthened friendships with Street Soccer players ($p<0.001$) and colleagues/other volunteers ($p<0.001$), increased their own self-esteem ($p<0.001$), and improved their physical fitness ($p=0.030$). Moreover, a majority disagreed with the belief that Street Soccer was associated with a risk to their personal safety ($p<0.001$).
CONCLUSIONS: Our data suggests the presence of several misconceptions about people affected by homelessness within the general community, including possibly underestimating their mental health burden. It appears that Street Soccer players are not the only party that benefits from participating in the league, but that volunteering with the league is helping to reduce stigma amongst volunteers.

NR12-34
PURSUING WELLNESS: ACHIEVING FALL REDUCTION THROUGH STAFF AND PATIENT PARTNERSHIP

Lead Author: Lisa A. Lacy, B.S.N., R.N.
Co-Author(s): Lisa Lacy, Colleen Green, Jane Halpin, Nicole Urban-Miller and Katie Mercadante

SUMMARY:

Purpose/Significance: Patient falls are a major cause of injury among hospitalized psychiatric patients, often prolonging and complicating their stay and impacting their well-being beyond hospitalization. A gradual rise in fall rates prompted nurses on a 52 bed, acute adult behavioral health unit in an academic, community Magnet™ hospital to translate new research into their fall prevention practices. This poster details the comprehensive fall prevention plan, which resulted in practices intended to impact patient safety beyond hospitalization.
Strategy/Implementation: One piece of the new fall prevention plan is a revised fall-prevention practice guideline, which involved a robust search of the evidence. As a result, a unique strategy within the guideline is a "fall" tab in the electronic documentation system containing all fall-related information in one easy to access location. Information includes the updated guideline, the Hendrich II Fall Risk Model, which our staff had been using and a new tool, the ABCS Injury Risk Assessment, which identifies additional patients at potential risk of fall injury. Use of the additional tool prompts nurses to think more critically and individualize a fall-prevention plan for each patient. Another key fall prevention strategy is a fall prevention contract, initiated on admission, in which the patient agrees to follow specific action items 100% of the time. This document prompts patients to make good and healthy choic-

es. Other strategies in the revised guideline include: use of non-skid yellow socks; 'fall tips' posters in all patient rooms to educate about what causes falls and how to prevent them; a toilet rotation schedule incorporated into the patient rounding schedule; mandatory staff education; and staff safety huddles. Conclusion: This data translates evidence into practice. New research shows patients who perceive engagement and involvement with both staff and their treatment programs experience a greater sense of value in their recovery. In turn, recovery well beyond hospitalization (and across the life span) is realized.

NR12-35

RACIAL DISPARITIES IN MENTAL DISORDER PATIENTS PRESENTING TO THE EMERGENCY ROOM

Lead Author: William Lawson, M.D., Ph.D.
Co-Author(s): Aderonke Oyetunji, MD, Augustine Obirieze, MBBS, MPH, Simon Leul, MD,

SUMMARY:
BACKGROUND. Schizophrenia affects people across racial, ethnic and demographic lines, accounting for about 1% of diagnoses in America while bipolar disorder accounts for 4.4%. Clinical studies show that schizophrenia is more frequently diagnosed in Blacks and bipolar disorder more in Whites. Large scale more objective studies using structured assessments find few or no ethnic differences in the prevalence of either disorder. Setting may acocunt for the discrepancy. The objective of this study was to investigate racial differences in prevalence of schizophrenia and bipolar disorders among patients presenting to the emergency department.

METHODS: Analysis of the State Emergency Department Databases for the states of Maryland and California for 2005 and 2006 data was conducted. Adult patients (18 years and older) with mental disorders were identified using appropriate ICD-9-CM codes. Bivariate analysis was used to compare patient demographics using Pearson Chi square test. Multivariable logistic regression was used to evaluate the odds of being diagnosed with Schizophrenia as well as the odds of being diagnosed with bipolar disorder, adjusting for patient characteristics.

RESULTS: In Maryland, a total of 29,923 patients met our inclusion criteria. Majority were White (50.9%), male (53%), and between the ages of 25 and 44years (44.56%). Crude rates of schizophrenia were 40.9%, 58.96%, 0% and 41.8% among Whites, Blacks, Hispanics, and Asian/pacific islanders respectively. Crude rates of bipolar disorder were 35.2%, 18.9%, 50%, and 10.3% for Whites, Blacks, Hispanics, and Asian/Pacific Islanders respectively. On multivariable regression, Blacks had a 1.86 times higher odds of having Schizophrenia (OR: 1.86; 95% CI: 1.76-1.95) compared to Whites, while the odds of having bipolar disorder was lower in Blacks (OR: 0.39; 95% CI: 0.36-0.41). In California, a total of 146,960 patients presented to the ED with mental disorders. Majority were white (47.9), male (55.8) between the ages of 25 and 44years. Crude rates of schizophrenia were 45.3%, 47.9%, 42.5%, 44.3% among Whites, Blacks, Hispanics, and Asian/Pacific Islanders respectively. Crude rates of bipolar disorder were 13.4%, 5.6%,6.3% and 7.4%% for Whites, Blacks, Hispanics, and Asian/Pacific Islanders respectively On multivariate regression, the odds of having schizophrenia was 1.13 times higher in Blacks(OR:1.13,95%CI: 1.09-1.1) as compared to Whites while the odds of having bipolar disorder was also lower in Blacks(OR:0.41, 95%CI:0.38-0.43)

CONCLUSION: Consistent with older studies, schizophrenia appeared more prevalent among Blacks while bipolar disorder was more frequent among Whites. Desptie educational efforts and change in diagnostic systems, Blacks remain at risk for diagnostic disparities. We showed in a recent paper that the overdiagnosis of schizophrenia persisted despite controling ofr most confunding varialbes. Cultrually relevant broadbased educatonal efforts are still needed.

NR12-36

REDUCTION OF HOSPITALIZATIONS AND COSTS AMONG MEDICAID INSURED SCHIZOPHRENIA PATIENTS AFTER INITIATING LONG-ACTING INJECTABLE ANTIPSYCHOTICS

Lead Author: Craig Karson, M.D.
Co-Author(s): Steve Offord PhD2, Donna Zubek BSN, MBA2, Siddhesh Kamat MS, MBA2, John Docherty MD2, Jay Lin PhD, MBA3, Benjamin Gutierrez, PhD2

SUMMARY:
Objective: To evaluate healthcare resource usage and costs before and after initiating long-acting injectable (LAI) antipsychotics among Medicaid insured schizophrenia patients.
Methods: Schizophrenia patients (? 13 years of age) who had at least 1 inpatient or 2 outpatient visits on separate dates with a primary or secondary diagnosis of ICD-9-CM code 295.X before initiating treatment with LAI antipsychotics (index event) were identified from the Thomson Reuters MarketScan® Research Medicaid database between 1/1/2006 and 12/31/2010. Patients were required to have 12 months of continuous health plan coverage before (baseline period) and after (follow-up period) the index event. Healthcare resource usage and associated payments were evaluated and compared for baseline and follow-up periods. Statistical analysis was conducted using SAS 9.2.
Results: Of 3,841 schizophrenia patients who initiated LAI antipsychotics, mean age was 39.0 years and 53% were male. The LAI antipsychotics initiated included haloperidol (40.2%), risperidone (39.4%), fluphenazine (13.0%), and paliperidone (7.4%). The study population had low general comorbidity as assessed by Charlson Comorbidity Index (CCI) (mean: 0.8±1.3). In comparison to the baseline period, during the follow-up period the mean number of all cause hospitalizations (1.26±2.12 vs. 0.92±1.89, $p<0.0001$) and schizophrenia-related hospitalizations (0.92±1.52 vs. 0.73±1.60, $p<0.0001$) declined, as well as annual total hospitalization days (all cause: 11.90±22.64 vs. 8.26±23.27 days, $p<0.0001$; schizophrenia-related: 9.04±16.77 vs. 6.42±16.99 days, $p<0.0001$). As a result, hospital payments were much lower

(all cause: $14,951±$30,290 vs. $10,988±$28,599, p<0.0001; schizophrenia-related: $11,295±$23,072 vs. $8,643±$23,953, p<0.0001).
Conclusion: Study results show that for Medicaid insured patients with schizophrenia, there is a reduction in hospitalizations after initiating treatment with LAI antipsychotics. These results from recently available Medicaid data concur with previously conducted studies that document a reduction in hospitalization rates and associated costs in patients after initiating LAI treatment.

Disclosure: The current research was supported by Otsuka America Pharmaceutical, Inc. and H. Lundbeck A/S.

NR12-37
RETHINKING RESTRAINT AND SECLUSION: MAJOR DIFFERENCES BETWEEN CHILDREN AND ADULTS

Lead Author: Stephen Pappalardo, B.A.
Co-Author(s): Dr. David L. Pogge
Dr. Martin Buccolo
Dr. Philip D. Harvey

SUMMARY:

Background:In a confined inpatient setting, agitated and dangerous behavior increases the risk of injury for the agitated patient, other patients and staff members. This problem is compounded in situations where the reason for referral to inpatient care was agitation, with few alternatives to seclusion and restraint. Given current definitions of seclusion and restraint, any physical contact with a patient that in any way limits their freedom of movement constitutes restraint and any requirement that they be alone in a room and cannot leave constitutes seclusion. Given the markedly different physical and behavioral characteristics of preadolescent children when compared to adults, and the inherent difference in meaning of these experiences for children versus adults, our hypothesis was that seclusion and restraint would have very different characteristics in adult and child inpatients, with differences in the prevalence of these interventions, their duration, and their reoccurrence. Methods:These analyses were collected on the basis of two years of inpatient admissions to a private psychiatric hospital. All of these incidents were recorded contemporaneously and these analyses were performed from medical records. As mechanical restraint was not used at this hospital, all restraints were physical restraints and seclusion included either confined in a quiet room on the unit or being escorted to a special seclusion room in another location. For this presentation, we compared child cases to adult cases because of the clear differences in reasons for referral to the hospital. Further, we examine the proportion of cases where the restraint or seclusion was accomplished by a single staff member to the proportion of cases were additional assistance was required. Results:Out of 749 child and 1093 adult cases, 441 had one or more seclusion events. Among these cases, the modal number of events was 1 (n=194). Child patients had a much higher prevalence of events and a higher frequency of events (n=396, 53% M=11.5) than adults (n=35, 3% m=3.3). There were notable differences in the types of seclusions experienced, with child patients largely experiencing seclusion on the unit (9.2/11.5 events), while adult patients were much more likely to require seclusion in a more specialized setting away from the unit (2.9/3.3 events). Duration of physical restraint averaged 4 minutes for children and 22 minutes for adults, while the duration of on-unit seclusion averaged 25 minutes for children and 42 for adults. Off unit seclusion duration averaged 44 minutes for children and 69 minutes for adults. Interventions performed by a single staff member constituted 73% of the child events and only 6% of the adult events. Implications:The majority of children and a very small proportion of adults experienced restraint or seclusion. These data suggest that the frequencies and characteristics of restraint and seclusion are markedly different in child and adult inpatients.

NR12-38
SOCIODEMOGRAPHIC FACTORS AND COMORBIDITIES ASSOCIATED WITH REMISSION FROM ALCOHOL DEPENDENCE

Lead Author: Sung Man Chang, M.D., Ph.D.
Co-Author(s): Song Yi Han, MD, Seung hee Won, MD, PhD**
**Kyungpook National University Hospital*

SUMMARY:

Background: The lifetime prevalence of alcohol dependence in South Korea is high. The aim of our study is to identify factors associated with remission from alcohol dependence.
Method: Data from the Korean Epidemiological Catchment Area - Replication (KECA-R) study were used in our study. The Korean version of the Composite International Diagnostic Interview 2.1 (K-CIDI 2.1) was administered. Remission was defined as having no symptom of alcohol dependence for 12 months or longer at the time of the interview. Demographic and clinical variables putatively associated with remission from alcohol dependence were examined by t-test, chi-square-test and logistic regression analysis.
Results: The lifetime prevalence rate of alcohol dependence was 7.0%. Among them, 3.2% of the subjects were diagnosed with active alcohol dependence in the previous 12 months, and 3.8% were found to be in remission. Subjects in 35- to 44 year-old group, not living with partner group, and lower level of educational attainment group were more likely to be in the active alcohol dependence state. Of the comorbid mental disorders, dysthymia, anxiety disorder, nicotine use, and nicotine dependence were more common among the actively alcohol-dependent subjects.
Conclusions: There is considerable level of recovery from alcohol dependence. Attention to factors associated with remission from alcohol dependence may be important in designing more effective treatment and prevention programs in this high-risk population.

NR12-39
STAKEHOLDER FOCUS GROUPS TO IMPROVE METABOLIC SCREENING AND TREATMENT OF PEOPLE WITH SEVERE MENTAL ILLNESS IN SAN FRANCISCO COUNTY.

Lead Author: Chelsea Elizabeth Modlin, B.A.
Co-Author(s): Martha Shumway, PhD
Dean Schillinger, MD
John Newcomer, MD
Christina Mangurian, MD

SUMMARY:
Background: People with severe mental illnesses (SMI) are at significantly high risk of developing the metabolic syndrome. One reason for this health disparity is a lack of linkage between mental and medical care. Despite attempts to encourage psychiatrists to begin metabolic monitoring for people taking antipsychotics (which increase metabolic risk), screening rates remain low.

Objectives: (1) To collect the input of stakeholders who regularly work with adults with SMI in order to tailor a metabolic screening intervention to the needs of San Francisco County providers. (2) To identify barriers that may specifically impact racial/ethnic subpopulations.

Methods:
Study Design/Subjects: Focus group study of community outpatient psychiatrists and primary care providers working with people with SMI in San Francisco.
Procedures: Invitations to participate in focus groups were sent electronically to randomly-selected providers. Focus groups of 8-10 participants for each provider group were convened. All participants signed a consent form and received a $20 gift card. A semi-structured interview guide was used focusing on barriers to screening and tailoring a proposed metabolic screening intervention. The 90-minute sessions were digitally audio-recorded.
Data Analysis: Recordings and transcripts were used to summarize the focus group data. An "overview grid" was used to identify patterns in responses and characterize the frequency, extensiveness, intensity and consistency of responses.

Results: Although the final report is pending, it will summarize shared views about barriers to screening and ways to tailor a proposed intervention to improve metabolic screening.

Conclusions: Engaging physician stakeholder groups is critical for development of interventions to improve metabolic screening and treatment of metabolic abnormalities in people with SMI. These focus groups provide invaluable information to tailor the metabolic screening intervention. This research was supported by NIMH K23MH093689.

References:

Nasrallah HA, Meyer JM, Goff DC, McEvoy JP, Davis SM, Stroup, TS, Lieberman, JA. Low rates of treatment for hypertension, dyslipidemia, and diabetes in schizophrenia: data from the CATIE schizophrenia trail sample at baseline. Schizophrenia Research. 2006; 86(1-3):15-22.

Miller CL, Druss BG, Dombrowski EA, Rosenheck RA. Barriers to Primary Medical Care Among Patients at a Community Health Center. Psychiatric Services. 2003; 54(8):1158-1160.

Parameswaran S, Chang C, Swenson AK, Shumway M, Olfson M, Mangurian CV. Roles in and barriers to metabolic screening for people taking antipsychotic medications: A survey of psychiatrists. Schizophrenia Research. 2012; in press.

Mangurian CV, Giwa AF, Shumway M, Fuentes-Afflick E, Dilley, JW, Perez-Stable E, Schillinger D. Primary care providers' views on metabolic monitoring of outpatients taking antipsychotic medications. Psychiatric Services. 2012; in press.

NR12-40
THE ASSOCIATION OF HIV VIRAL SUBTYPE WITH ANXIETY AND DEPRESSIVE SYMPTOMS IN A SOUTHEAST ASIAN HIV-POSITIVE POPULATION

Lead Author: Lai Gwen Chan, M.B.B.S.
Co-Author(s): Mei Jing Ho, BSoc Sci
Oon Tek Ng, MBBS, MMed
Jaspal Singh, MBBS, MMed

SUMMARY:
Background:
HIV subtype C is the commonest viral subtype globally but most studies reporting viral effects on neurocognitive impairment were conducted in America and Europe where subtype B is most prevalent. Little is known about the associations between viral subtype and psychiatric symptoms in general, much less in Southeast Asia where subtype B and recombinant form CRF01_AE are prevalent.

Objective:
To investigate the association between HIV viral subtype and anxiety and depressive symptoms in a sample of HIV-positive patients.

Method:
A cross-sectional survey of a random sample of HIV-positive patients with 2 years of diagnosed HIV illness was done using the Hospital Anxiety and Depression Scale (HADS). The scores of the group with subtype B were compared with the group with CRF01_AE. Mean scores were compared using the independent sample t-test. Proportions of patients with significant anxiety and depression subscale scores and total scores were compared using chi-squared tests. Multivariate logistic regression was used to control for the variables of age, nadir CD4, current CD4 and viral loads.

Results:
Of a sample of 56 patients, 26 (46.4%) had subtype CRF01_AE and 30 (53.6%) had subtype B. The group with subtype B had higher mean total score (p=0.11) and higher score on the anxiety subscale (p=0.047). A higher proportion of patients

with subtype B scored at least 15 on total score (p=0.006) but there was no difference between the two subtype groups in the proportion of those meeting the cutoff score of 7 on either the anxiety or depression subscales. Multivariate logistic regression showed that subtype B (OR 34.48, p=0.008) and a higher nadir CD4 (OR 1.01, p=0.049) were significantly associated with a HADS total score of at least 15.

Conclusion:
HIV subtype B is associated with more anxiety and depressive symptoms in a sample of Southeast Asian HIV positive patients. Further research is required to elucidate the pathophysiological basis for this. This finding has implications on the provision of holistic clinical care of HIV patients.

NR12-41
THE BRIEF MULTIDIMENSIONAL ASSESSMENT SCALE (BMAS); A MENTAL HEALTH CHECK UP

Lead Author: Gabor Istvan Keitner, M.D.
Co-Author(s): Abigail K Mansfield PhD
Joan Kelley BA

SUMMARY:
Introduction:There is increasing interest in using quantifiable measures to assess the clinical status of patients at every health encounter and over the course of an illness. Most available scales are either too long for routine clinical use, focus on a narrow range of symptoms, or focus on specific diagnostic groups.
Aims:The aim of this study was to evaluate the psychometric properties of the BMAS, a brief (less than one minute), four question scale designed to assess global mental health outcomes including, quality of life,symptoms,functioning and relationships.
Method:Participants were 248 psychiatric outpatients who completed the BMAS and the Outcome Questionnaire-45 (OQ45) as part of their standard ongoing care.
Results: Internal consistency was evaluated using Cronbach's alpha which was .75 for the four items.Test retest reliability was assessed using Pearson's r and ranged from .45 (symptom severity, which can fluctuate daily) to .79 (quality of life) for each of the BMAS items. Concurrent and convergent validity was analyzed using Pearson product moment correlations between BMAS and OQ45 scales. All correlations were significant for the relevant dimensions.
Conclusions:The BMAS demonstrated acceptable reliability, especially for such a brief measure. It also demonstrated concurrent and convergent validity with a much longer commonly used clinical outcome scale. The BMAS is a useful assessment tool for patients with any clinical condition for which it is desirable to track how the patient is experiencing his or her life situation at a given point in time and when there is a desire to monitor change over time.

NR12-42
THE EXAMINATION ON CLINICAL CHARACTERISTICS OF SCHIZOPHRENIA THAT CONTRIBUTES TO EFFECTS OF COGNITIVE REMEDIATION THERAPY USING THE "COGPACK"SOFTWARE

Lead Author: Sayaka Sato, M.A., Ph.D.
Co-Author(s): Kazuhiko Iwata, MD, MPH1), Shunichi Furukawa, MD2) Yasuhiro Matsuda, MD3) , Norifumi Hatsuse, MD4) , Yukako Watanabe, MD4) , Emi Ikebuchi, MD, PhD4)

1)Center for Clinical Research and Development Initiative, Osaka Psychiatric Medical Center, Osaka, Japan
2) Department of Rehabilitation, Faculty of Medicine, University of Tokyo, Tokyo, Japan
3) Department of Psychiatry, Nara Medical University School of Medicine, Nara, Japan
4) Department of Psychiatry, Teikyo University School of Medicine, Tokyo, Japan

SUMMARY:
[Objective]
There is a growing interest in cognitive remediation therapy (CRT). Little is however known about what kind of patients tend to benefit from CRT. This study examined the clinical characteristics associated with the effects of CRT.
[Method]
#Participants
78 patients with schizophrenia who have participated in CRT were included in analyses. 57 were male, and their mean age was 33.45±7.03 years old.
#Intervention
The CRT was conducted twice a week using computer software "CogPack" for 12 weeks. Participants also received a bridging group treatment once a week according to the Thinking Skills for Work program (McGurk SR, 2007).
#Outcomes
In addition demographic variables, cognitive and social functions were assessed using the Brief Assessment of Cognition in Schizophrenia (BACS), the Positive and Negative Syndrome Scale (PANSS) and the Life Assessment Scale for Mentally Ill (LASMI; only Japanese available).
Statistical Methods
We operationally defined "the ? composite score" as the comprehensive assessment showing the results of CRT in this study. The composite score is the mean score of Z scores in the BACS subscales. The ? composite score was calculated by subtracting the pre-score of the composite score from the post-score. Multiple linear regression analysis was used to evaluate the relationships between the ? composite score and pre-scores of each BACS subscale, adjusting participants' ages. The ? coefficients, P-values and adjusted R2 were reported.
[Results]
Multiple linear regression analysis showed that the fluency of categories were significantly associated with the ? composite score. In addition, verbal memory had a nearly significant relationship with the ? composite score (fluency of categories??=-0.405, p=0.002, verbal memory??=-0.215, p=0.096, adjusted R2?0.112).
[Discussion]
The present findings demonstrate that it could be expected

good performances of CRT from individual with cognitive impairments related fluency of categories or verbal memory rather than those who do not have such impairments.

NR12-43
TRAUMA INFORMED CARE SURVEY OF PSYCHIATRISTS AND PRIMARY CARE PHYSICIANS IN THE MIDDLE EAST

Lead Author: Ossama T. Osman, M.D.
Co-Author(s): Richard Mollica, M.D., Laeth Nasir, M.D., James Lavelle, LICSW and Noor Amawi, PsyD.

SUMMARY:
It is estimated that between 100 and 140 million people in the Arab world suffer from one or more psychiatric disorders. Trauma has become a near universal experience due to violence, war, social and political instabilities. The physical and psychological consequences are highly disabling. In this study we aim to sensitize Mental Health Professionals and Primary care Practitioners to the extent and impact of trauma. METHODS: The study is part of a partnership global mental health project between the Zayed Institute for Public health at the United Arab Emirates University (UAEU) and the Harvard Program in Refugee Trauma (HPRT). This is an online survey of psychiatrists and primary care physicians from 20 countries. (17 Arab countries+ some old silk road countries; Afghanistan, Pakistan & India). The main Survey dimensions included demographic information about respondent and facility, composition of health and mental health practitioners, mental health problems, social issues, therapeutic drugs and mental health training, mental health research, monitoring and evaluations, and confidence addressing mental health problems after the trauma. The survey items focus on trauma related clinical strengths and weaknesses of Middle Eastern Region mental health centers and primary health care. RESULTS: There were 85 completed responses. Almost half of the respondents reported that primary health care practitioners in their country are not trained to provide basic mental health services to the general population affected by trauma (47.2%) nor to persons with serious mental illness (45.2%). Few were completely confident to identify and treat adult (>18) traumatized patients/clients (37.1%) and only fewer respondents were completely confident to Identify and treat teenage (27.1%) or children (15.7%). Only 21.7% were completely confident to identify and treat victims of domestic violence. Only a quarter of respondents (26.8%) were completely confident to use religious beliefs to support and benefit patients and even less of them were completely confident to Work in partnership on a case with a religious clergy (17.1%). Most common types of reported traumas were; divorce/separation, the recent death of a close relative or friend, domestic violence and the psychological effects of war and refugees/internally displaced persons (28.8%, 27%, 21.3, 17.8% &12.5%)). As for the composition of clinical teams, a substantial number of students were reported with negligible number of community volunteers, and school counselors were rare. CONCLUSIONS: Our study highlights the need to develop awareness -in Primary Health Care and Mental Health- and training programs in the area of the identification and treatment of traumatized persons of different age groups. The leading efforts from the United Arab Emirates to develop global mental health alliances is expanding as a regional center of excellence in research and training for trauma informed mental health services.

NR12-44
THE RELIABILITY AND VALIDITY OF THE STANDARD FOR CLINICIANS' INTERVIEW IN PSYCHIATRY (SCIP)

Lead Author: Ahmed Aboraya, M.D.
Co-Author(s): W. Zheng, MD
P. Chumbers, MD
D. Elswick, MD
J. Berry, DO
C. Hill, MD
E. Price, MS

SUMMARY:
Background: The Standard for Clinicians' Interview in Psychiatry (SCIP) is a method of assessment of psychopathology, administered by clinicians (psychiatrists and experienced mental health professionals) and includes the SCIP interview and the SCIP manual. The SCIP method of psychiatric assessment has three components: the SCIP interview (dimensional) component, the etiologic component, and the disorders classification component. The SCIP has three main types of output: a diagnostic classification of the disorder, dimensional scores, and numerical data. The SCIP provides diagnoses according to the Diagnostic and Statistical Manual (DSM) and International Classification of Disease (ICD) criteria. A dimensional score is provided for the following types of psychopathology: obsessions, compulsions, depression, mania, suicide, delusions, hallucination, agitation, disorganized behavior, negative symptoms, catatonia, drug addiction, posttraumatic stress, attention, and hyperactivity. The SCIP produces numeric data for psychopathological symptoms and signs.
Methods: The SCIP was tested in an international multisite study in three countries (USA, Canada and Egypt) between 2000 and 2012. The total sample size of all the sites is 1,010 subjects making the SCIP project the largest validity and reliability study ever. Two reliability methods were used in the analyses: inter-rater and internal consistency. The validity of the SCIP was tested by comparing the diagnoses generated by the SCIP method against the diagnoses generated by the Schedules for Clinical Assessment in Neuropsychiatry (SCAN) interview and the diagnoses provided by experts (both were considered as gold standard diagnoses).
Results: The inter-rater reliability of 117 questions was measured. The reliability was excellent (Kappa >0.80) in 53% of the questions (62 out of 117) and fair to good (Kappa between 0.4 and 0.8) in 46% of the questions (54 out of 117). One question on obsession had a low Kappa of 0.24. The validity of the SCIP regarding the main Axis I diagnoses was fair to good (Kappa between 0.4 and 0.8) with the exception of bipolar disorder, mixed (Kappa=0.3) and polysubstance dependence (Kappa=0.25).

Conclusions: The data show the SCIP items are reliable and the SCIP diagnoses are valid for the main Axis I disorders.

NR12-45
TOTAL COST OF CARE AMONG PATIENTS WITH SCHIZOPHRENIA BY COST COMPONENT AND AGE

Lead Author: Kathleen F. Villa, M.S.
Co-Author(s): Kathleen Reilly, MA; Keith Isenberg, MD; Maxine Fisher, PhD

SUMMARY:
Objective: To characterize real-world costs by service type and age among patients with schizophrenia.

Methods: Retrospective cohort analysis of patients (ages 13-64 with ?2 claims for schizophrenia) using commercial claims (HealthCore Integrated Research Database) from 1/1/2007-4/30/2010. Patients (N=5,676) were stratified by age: 13-17 (N=229, 4%), 18-25 (N=873, 15%), 26-35 (N=1,044, 18%), 36-45 (N=1,181, 21%), 46-55 (N=1,482, 26%), and 56-64 (N=867, 15%). Patients were followed from the first claim for schizophrenia (the index date) to 1 year. Antipsychotic medications were identified using the pharmacy claims closest to the index date (±90 days). Total annual all-cause and mental health-related costs, including all office visits, outpatient services, inpatient services, structured nursing, ER and pharmacy claims were calculated. Mental health services were defined by the presence of claims with ICD-9 codes 290.xx-316.xx and V40.x. Costs were described with means and standard deviations. Differences in mean costs were compared using ANOVA on log transformed costs.

Results: The total average annual all-cause healthcare cost for patients in the sample was $20,070±$32,434. Older age had a linear association with lower costs (P<0.01). Patients aged 13-17 had the highest total costs, $25,294±$42,619 compared to $20,723±$38,623 among patients ?55. Inpatient services represented the majority of total average costs at 43% ($8,668±$27,110), the majority of which were psychiatric (91%). Remaining total average costs by service type were: outpatient/office visits 28% ($5,595±$10,427); psychiatric pharmacy 20% ($3,955±$4,419); non-psychiatric pharmacy 5% ($1,414±$1,332); ER visits 2% ($440±$1,424); and structured nursing 1% ($142±$1,566). Across age groups, the percent of cost attributable to inpatient psychiatric stays was much higher for younger age groups, accounting for 51% of costs among patients <18 compared to 31% among those ?55 ($12,822±$39,006 vs. $6,516±$25,883); (P<0.01).

Conclusion: The main driver of healthcare costs among patients with schizophrenia is inpatient services. Although younger patients had higher antipsychotic costs, their higher total costs were mainly attributable to inpatient services. Treatments that reduce the number and length of inpatient stays, particularly among young patients early in the course of disease, are likely to have the greatest impact on overall healthcare costs associated with schizophrenia.

NR12-46
TRANSLATIONAL PHARMACOGENOMICS: PHYSICIAN USE AND SATISFACTION WITH AN INTEGRATED, MULTI-GENE PSYCHIATRIC PHARMACOGENOMIC TEST AND INTERPRETIVE REPORT

Lead Author: Josiah Allen, B.A.
Co-Author(s): Sean Massie; Joel G. Winner, MD; C. Anthony Altar, PhD

SUMMARY:
Background: Three studies have demonstrated that use of an integrated, multi-gene pharmacogenomic test and interpretive report (GeneSightRx) improved the outcomes of patients with major depression compared to patients who received treatment as usual (TAU) without the benefit of such testing (Hall-Flavin et al, Transl Psych 2012; Furmaga et al, NCDEU 2012; Altar et al, SOBP 2012). GeneSightRx is a treatment decision support product that compares allelic variations in CYP2D6, CYP2C19, CYP2C9, CYP1A2, SLC6A4, and HTR2A to the pharmacologic profiles of 32 psychiatric medications. A combined analysis of these 3 studies was performed to evaluate the utilization of GeneSightRx and its effect on physician prescribing and satisfaction with the delivery of patient care.

Methods: The three studies enrolled a total of 246 subjects diagnosed with major depressive disorder or depression NOS and who were divided into TAU or guided by the GeneSightRx report. Subjects and their clinicians in the TAU arms were blinded to the test results, whereas clinicians of subjects in the GeneSightRx arms received test results at trial initiation. Medication regimens were recorded over 8 weeks and categorized as congruent or incongruent with the GeneSightRx recommendations by raters who were blind to subjects' treatment arm. Clinicians in both arms were also surveyed regarding their experiences and satisfaction with clinical care.

Results: More subjects in the GeneSightRx arm had medication regimens that were congruent with the report recommendations (86.9%) than TAU subjects (63.8%; $p < 0.0001$). Subjects in the GeneSightRx arm who entered the study on medications in the "use with caution and more frequent monitoring" (red) bin of the report showed nearly full congruence (95.7%) by the end of 8 weeks, compared to red-binned TAU subjects (53.6%; $p < 0.0001$). Results were similar for subjects entering the study on medications classified in the yellow "use with caution" bin, with 71.4% of GeneSightRx subjects demonstrating congruence, compared to 47.3% of TAU subjects ($p = 0.009$). Confirming these findings, physicians on average found the GeneSightRx report useful (3.4) and mostly agreed that the report influenced their treatment decisions (3.0). Physician satisfaction with clinical care was higher in the GeneSightRx arm (3.3 on a 1 to 4 point scale) than for those in the TAU arm (2.7; $p < 0.0001$).

Conclusions: The greater congruence of subjects' medication regimens with GeneSightRx report recommendations suggests that physicians in 3 independent, prospective trials used the report to make medication selections and dose modifications. Since all 3 studies also demonstrated improved

depressive symptoms in subjects treated with GeneSightRx compared to TAU, these results indicate that use of GeneSightRx by clinicians results in improved satisfaction with clinical care, optimized treatment prescribing and improved antidepressant responses in psychiatric patients.

NR12-47
ONLINE SCREENING FOR PSYCHIATRIC DIAGNOSES

Lead Author: Suhayl Nasr, M.D.
Co-Author(s): Anand Popli, MD
John Crayton, MD
Burdette Wendt

SUMMARY:
Background: The MINI (Mini International Neuropsychiatric Inventory) is a structured interview that elicits diagnoses of several disorders: Depression, Mania, OCD, PTSD, GAD, Panic Disorder, Alcohol Dependence, Antisocial Personality, etc… One benefit of online screening is that it can save the clinician time during the initial psychiatric evaluation. It also has the ability to include questions that may be overlooked in the course of a clinical interview and to make it easier for many patients to access psychiatric care. Following is a study of the congruence of the diagnosis between the psychiatrist and several online screening tools.
Method: A retrospective chart review was conducted on 352 consecutive patients in a private psychiatric outpatient clinic. Patients took the MINI, the MiniSCID (Structured Clinical Interview for DSM), MDQ (Mood Disorder Questionnaire), and the SCL 90 (Symptom Checklist). A comprehensive psychosocial history and the PHQ9 were also included in this battery of online questionnaires. The results of these tests were then compared to the diagnosis given by the psychiatrist after the initial psychiatric evaluation and follow up for an average of 16 months.
Results: The best sensitivity and specificity consistent with the psychiatrists' diagnosis was for OCD by the MINI (0.85/.88) followed by Bipolar Disorder by the MINI (0.72/0.74), compared to the MDQ (0.53/0.88). The MINI, MiniSCID, and SCL90 had similar sensitivity and specificity for agreement with the diagnosis of Major Depression (0.47/0.69, 0.57/0.59,and 0.48/0.64 respectively). The MiniSCID tended to agree with clinical diagnoses of GAD and Panic Disorder more often than the MINI (0.50/0.73 vs. 0.50/0.64).
Conclusions: Online screening using the MINI can alert the clinician to several diagnostic possibilities. The MINI appears to be most consistent with the psychiatrists' diagnoses of OCD and Bipolar Disorder. The MINI, MiniSCID and SCL90 were equally consistent with the diagnosis of Major Depression while the MiniSCID was more consistent with the diagnosis of GAD and Panic Disorder.