

8th International Congress on Psychopharmacology & 4th International Symposium on Child and Adolescent Psychopharmacology

CONGRESS AWARD CANDIDATES

[Abstract:0021][ADHD]

Dynamic thiol/ disulphide homeostasis in children with attention deficit hyperactivity disorder and its relation with disease subtypes

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OBJECTIVE: Attention deficit hyperactivity disorder (ADHD) is common in children and adolescents. Although many factors play a role in the etiopathogenesis of ADHD, recent evidence suggests that the pathophysiology of ADHD may be associated with oxidative stress. The aim of this study was to evaluate a novel oxidative stress marker (dynamic thiol/disulphide homeostasis) in ADHD children for the first time in literature.

METHODS: Ninety ADHD patients and gender and age-matched 65 healthy volunteer controls between 6 and 14 years of age were included in this study.

The exclusion criteria of the study were as follows: patients who were considered mentally retarded (IQ below 80) and presence of a comorbid psychiatric, neurologic or genetic disorder, chronic systemic diseases, infections, liver and kidney diseases, malignancy, use of any antioxidant agent, being under current medication or intake of medications within the last two weeks and having a history of severe head injury.

The thiol/ disulfide homeostasis were measured by a newly developed method (Erel & Neselioglu). After native thiol, total thiol and disulfide levels were determined; measures such as disulfide/native thiol, disulfide/total thiol, and native thiol/total thiol were calculated and compared between the study groups.

RESULTS: There were no statistically significant differences in mean age ($p=0.091$) and gender distribution ($p=0.811$) between the ADHD group and the control group. A family history of ADHD diagnosis in the ADHD group was significantly higher than that of the control group ($p=0.004$). The mean serum total thiol and native thiol levels of the patients were significantly higher whereas disulphide/ native thiol ratio of the patients were significantly lower than the controls ($p<0.001$, $p<0.001$, $p=0.028$, respectively). Disulphide levels of the patients were higher than the controls; however, the difference was not statistically significant ($p>0.05$). The ADHD- combined type appeared to have higher disulphide level and disulphide/ native thiol and disulphide/total thiol ratios compared to other subtypes ($p<0.001$, $p=0.017$, $p=0.029$, respectively). Plasma disulphide level in the males with ADHD were statistically significantly higher than in females in the ADHD group ($p=0.023$). In ROC analysis the cutoff point for native thiol was 452.9, for total thiol was 493.9, for disulphide/ native thiol was 4.8 for diagnostic measures for ADHD.

CONCLUSIONS: This study suggests that plasma dynamic thiol / disulphide homeostasis is abnormal in children with ADHD. Oxidative stress may play a role in the etiopathogenesis of ADHD and plasma dynamic thiol/ disulphide homeostasis may be a useful diagnostic tool in this context. Plasma dynamic thiol/ disulphide homeostasis may be used as a novel oxidative stress marker in ADHD children because it is readily available, easily calculated, and relatively cheap. Further studies are needed to confirm the pathophysiologic role of dynamic thiol/disulphide homeostasis in ADHD.

Keywords: attention deficit hyperactivity disorder, children, subtypes, oxidative stress, thiol, disulphide, homeostasis

Reference:

Erel O, Neselioglu S. A novel and automated assay for thiol/disulphide homeostasis. *Clin Biochem.* 2014 Dec;47(18):326-32. doi: 10.1016/j.clinbiochem.2014.09.026.

Bulletin of Clinical Psychopharmacology 2016;26(Suppl. 1):S90

[Abstract:0022][Others]

Emotional and behavioral characteristics of gifted children and their families

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OBJECTIVE: The objective of this study is to compare quality of life, social, emotional, behavioral, psychological problems and family functioning of gifted children and children with normal intelligence level.

METHODS: Forty-six gifted children between the ages of 9-18 and 56 children with normal intelligence were included to the study. Kiddie and Young Adult Schedule for Affective Disorders and Schizophrenia-Present and Lifetime Version, Wechsler Intelligence Scale for Children-Revised and Children's Depression Rating Scale were administered by the researchers. Quality of Life Scale for Children, State-Trait Anxiety Inventory, Children Depression Inventory, the Strengths and Difficulties Questionnaire self-report form were completed by children; Family Assessment Device, Strengths and Difficulties Questionnaire Parent Form, Quality of Life Scale Parent Form were completed by the parents.

RESULTS: Gifted children identified more deficits in attention and hyperactivity than children with normal intelligence; stating a decline in social functioning and perceived worse physical health status than non-gifted children while gifted boys had more depressive symptoms than gifted girls. Boys with normal intelligence were perceived as showing low school functioning by their parents; and it was observed that boys who had participated in the study had lower social functioning and higher peer relationship problems compared to the girls. It was determined that family members of gifted children revealed adequate levels of attention, care, and love to each other when compared to the control group.

CONCLUSION: Determination of problematic areas might contribute helping to identify the needs of gifted children in a right manner.

Keywords: gifted children, quality of life, family functioning, anxiety, depression, social, emotional and behavioral problems

Bulletin of Clinical Psychopharmacology 2016;26(Suppl. 1):91

[Abstract:0066] [Schizophrenia and other psychotic disorders]

miRNAs related with treatment resistance in schizophrenia

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OBJECTIVE: At least half of the patients with schizophrenia do not respond to treatment and the disease may progress further. Polymorphisms in signal transduction molecules that are the target of treatment medication are known molecular mechanisms of treatment resistance. In addition, miRNA is considered to be causing treatment resistance in patients with schizophrenia.

The purpose of the present study is to determine the differences between expression levels of certain miRNAs and to examine their relationship to treatment resistance in patients with schizophrenia, due to the fact that their association with schizophrenia has been well presented in the literature.

METHODS: In the study, 3 groups were formed; treatment-resistant group (n=20), group responding well to the treatment (n=20), and healthy control group (n=10). Peripheral blood samples collected from subjects were transferred to EDTA tubes. miRNA isolation was performed. Obtained miRNAs were converted to cDNA. Expression levels of miRNAs were determined by qRT-PCR. In order to estimate the target genes of miRNA that may contribute to the formation of treatment resistance; miRanda, DIANA-microT and PicTar databases were used. p<0.05 was accepted to be statistically significant.

RESULTS: Expression of 10 of the 29 miRNAs associated with schizophrenia in the literature (miR-7-5p, miR-27a-3p, miR-128-3p, miR-141-3p, miR-181b-5p, miR-195-5p, miR-218-5p, miR-301a-3p, miR-337-5p and miR-544a) were found to be increased in the treatment-

resistant group and decreased in the group responding well to the treatment. However, of these 10 miRNAs, changes in expression levels of only miR-181b-5p, miR-195-5p and miR301a-3p were found to be statistically significant. In addition, miR-10a-5p and miR-27b-3p are increased in the group responding well to the treatment and decreased in group resistant to the treatment. However, these differences were not statistically significant.

CONCLUSION: miRNAs may cause treatment resistance by silencing the receptor genes of the drugs used in schizophrenia treatment. miR-181b-5p, miR-195-5p and miR-301a-3p might be candidate indicators that can be used to reveal resistance against schizophrenia treatment.

Keywords: miRNAs, miR-181b-5p, miR-195-5p, miR301a-3p, schizophrenia, treatment-resistant schizophrenia

Bulletin of Clinical Psychopharmacology 2016;26(Suppl. 1):S91-S2

[Abstract:0075][Psychopharmacology]

The effects of ellagic acid on hippocampal brain derived neurotrophic factor and serotonin transporter levels in mouse depression models

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OBJECTIVE: Ellagic acid (EA) is a naturally occurring polyphenolic compound found in many fruits, nut galls and plant extracts such as pomegranate, raspberries, strawberries, grapes, and green tea. Some studies have shown the antidepressant-like effect of EA. However, interaction between ellagic acid and brain derived neurotrophic factor (BDNF) has not been determined yet. In this present study, we aimed to examine if there is any correlation between ellagic acid treatment and hippocampal BDNF levels.

METHODS: Adult BALB/c male mice, weighing 30-35 g, 2-3 months old were divided into 5 groups (n:10). During 14 days mice were treated with EA or sertraline by intraperitoneal route. The antidepressant-like effect of EA (1/2,5/5 mg/kg) and sertraline (5 mg/kg) was examined using forced swimming test (FST) and tail suspension test (TST). Locomotor activity of the mice was evaluated by open field test. After 14 days of treatment, the hippocampi of the mice were dissected. Hippocampal BDNF and SLC6A4 levels were assessed by Western Blot analysis. The experimental protocol was approved by the Local Ethical Committee on Animal Experimentation of Akdeniz University, Antalya, Turkey.

RESULTS: Obtained data demonstrated that EA, administered at 2,5 mg/kg dose, decreased the immobility time of the mice in both TST and FST. In FST, EA at 1 or 5 mg/kg doses did not show antidepressant-like effect but in TST all three doses of EA decreased the immobility time when compared with control group. In the open field test EA in all three doses and sertraline did not change distance that mice were walked. So the reducing effect in immobility time of EA was not dependent on the changes in locomotor activity. Hippocampal BDNF levels were increased after EA treatment and SLC6A4 levels were decreased.

CONCLUSION: To our knowledge, this is the first study that shows interaction between antidepressant-like effect of EA and hippocampal BDNF and SLC6A4 levels. Because of neuroplasticity hypothesis in depression is more prevalent more recently, we showed EA effect on BDNF levels to support the antidepressant-like effect of EA. After clinical studies of EA in depression this phenolic compound can become one of the new antidepressant drug candidates in humans.

Note: This study was supported by Akdeniz University The Scientific Research Projects Coordination Unit.

Keywords: Ellagic acid, depression, BDNF

Bulletin of Clinical Psychopharmacology 2016;26(Suppl. 1):S92

[Abstract:0081][Autism]**Association between the rs1360780 polymorphism in FKBP5 gene and serum cortisol levels in children with autism spectrum disorder**Hasan Bozkurt¹, Abdullah Cim³, Seref Simsek², Serkan Sahin¹, Salih Coskun³¹Department of Child and Adolescent Psychiatry, Gaziosmanpasa University, Tokat, Turkey²Department of Child and Adolescent Psychiatry, Dicle University, Diyarbakir, Turkey³Department of Medical Genetics, Dicle University, Diyarbakir, Turkey

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OBJECTIVE: To investigate the rs1360780 polymorphism in FK506 binding protein 5 (FKBP5) gene and its relation to autism spectrum disorder (ASD) and cortisol levels comparing with that of healthy participants.

METHODS: We have included two main groups as study and control groups in the present study. Eighty nine children with ASD ranging in age from 2 to 15 years were selected for the study group and age and gender-matched 86 healthy children were selected for the control group. Peripheral venous blood samples were collected between 10 AM and 12 AM. Serum cortisol levels were determined with ELISA method and the rs1360780 polymorphism was genotyped using the TaqMan 5'-exonuclease allelic discrimination assay and StepOnePlus real-time polymerase chain reaction (PCR) system.

RESULTS: The mean cortisol level for the study group was 85.5±36.8 ng/ml while the mean cortisol level for the control group was 61.9±35.8 ng/ml. Cortisol levels were significantly higher in the study group compared to the control group ($p<0.001$). There was a statistically significant negative correlation between age and cortisol levels in the study group ($r=-0.360$, $p=0.001$). There were no statistically significant differences in terms of allele and genotype frequencies between the groups ($p>0.05$). The mean cortisol levels in the participants of the study group with the CC and CT genotypes were found to be significantly higher than those of the control group with the same genotypes ($p<0.001$) while there was no statistically significant difference in terms of mean cortisol levels between the study and control groups with the TT genotypes ($p=0.21$). When the autistic subjects were divided into two subgroups, i.e., the group with the T allele (TT and CT) (T carriers) and that without the T allele (CC) (non-T carriers), no statistically significant difference were found between T carriers and non-T carriers among the participants in the study group for cortisol levels ($p=0.26$) due to the small number of the cases homozygous for the T allele.

CONCLUSION: This is the first clinical study to evaluate the association between rs1360780 polymorphism in FKBP5 gene and serum cortisol levels in children with ASD comparing with that of healthy controls. Since the prevalence of ASD is gradually increasing in recent years, several endocrine and related genetic factors should be kept in mind while examining this population. However more research is also needed to further explore the relationship between ASD and these factors.

Keywords: autism, cortisol, FKBP5 gene, rs1360780 polymorphism

Bulletin of Clinical Psychopharmacology 2016;26(Suppl. 1):S93

[Abstract:0130][Mood disorders]**Can optic coherence tomography (OCT) be a tool to track inflammation and neurodegeneration in patients with major depression?**Aysun Kalenderoglu¹, Ayse Sevgi Kaya², Mustafa Celik¹, Abdulgani Temizkan³, Oguzhan Bekir Egilmez¹¹Department of Psychiatry, Adiyaman University, Adiyaman, Turkey²Department of Ophthalmology, Adiyaman Research and Education Hospital, Adiyaman, Turkey³Department of Psychiatry, Adiyaman Research and Education Hospital, Adiyaman, Turkey

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OBJECTIVE: The aim of this study was to compare degenerative changes in retina layers like ganglion cell layer (GCL), inner plexiform layer (IPL), and retinal nerve fiber layer (RNFL) and inflammatory changes in choroid layer in patients with first episode and recurrent depression.

METHODS: This study included 50 recurrent (16 males and 34 females) and 50 first episode (15 males and 35 females) major depressive

disorder patients admitted to the Psychiatry Department of Adiyaman University Medical School and 50 healthy controls (18 males and 32 females) Optic coherence tomography (OCT) scan was performed to all of the patients and the controls in Adiyaman University Ophthalmology Department by the same researcher (ASK). RNFL thickness, and GCL, and IPL volumes were measured and recorded automatically by OCT Device (Spectralis OCT, Heidelberg Engineering, Germany). For choroid thickness mean of 3 measurements was calculated.

RESULTS: Mean age of the recurrent depression group was 40.76 ± 9.43 , the first episode depression group was 39.14 ± 9.50 , and the control group was 41.02 ± 13.96 . No significant difference were found between groups according to age or gender. Mean choroid thickness in both right and left eyes were significantly higher in the patient group than the control group ($p < 0.05$). Also, choroid thickness was more in acute depression patients than in recurrent depression patients ($p < 0.05$). In the patient group GCL and IPL volumes were significantly less than the control group ($p < 0.05$). In addition, mean GCL and IPL volumes of recurrent depression patients were less than the first episode patients ($p < 0.05$). There were also significant negative correlations between disease severity parameters such as Clinical Global Impression (CGI) and Hamilton Depression Rating Scale (HDRS) scores and RNFL thicknesses, and GCL and IPL volumes.

CONCLUSIONS: Significant decreases in GCL and IPL volumes in depression patients and correlation of these decreases with disease severity parameters such as recurrence, and CGI, and HDRS scores implies a neurodegenerative process in major depression patients. Choroid is a highly vascularized structure and increase in its thickness during acute stage of depression may be regarded as a sign that supports inflammation in the etiology of depression. OCT is a fast, non-invasive, easy to perform procedure which does not produce radiation or any other harmful effects to the patient and it can be used as a tool to follow neurodegeneration in the course of depression.

Keywords: optic coherence tomography, major depression, ganglion cell layer, inner plexiform layer, retinal nerve fiber layer

Bulletin of Clinical Psychopharmacology 2016;26(Suppl. 1):S93-S4

[Abstract:0142][Others]

Facial emotion recognition in psychiatrists and influences of their therapeutic identification on that ability

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OBJECTIVES: Although emotional cues like facial emotion expressions seem to be important in social interaction, there is no specific training about emotional cues for psychiatrists. Here, we aimed to examine psychiatrists' ability of facial emotion recognition and relation with their clinical identification as psychotherapy vs. psychopharmacology oriented and being adult vs. child and adolescent psychiatrist.

METHODS: Facial Emotion Recognition Test that was constructed by a set of photographs (happy, sad, fearful, angry, surprised, disgusted, and neutral faces) from Ekman and Friesen's was administered to 130 psychiatrists.

RESULTS: Psychotherapy oriented adult psychiatrists were significantly better in recognizing sad facial emotion ($p = 0.003$) than psychopharmacologists while no significant differences were found according to therapeutic orientation in child and adolescent psychiatrists (for each, $p > 0.05$). Adult psychiatrists were significantly better in recognizing fearful ($p = 0.012$) and disgusted ($p = 0.003$) facial emotions than child-adolescent psychiatrists while the latter were better in recognizing angry facial emotion ($p = 0.008$).

CONCLUSION: For the first time, we have shown that therapeutic identification and being adult or child-adolescent psychiatrist seem to influence their facial emotion recognition ability. It would be valuable to investigate how these differences or training the ability of facial emotion recognition would affect the quality of patient-clinician interaction and treatment related outcomes.

Keywords: empathy, facial emotion recognition, psychotherapy, childhood-adolescent psychiatry

Bulletin of Clinical Psychopharmacology 2016;26(Suppl. 1):S94

[Abstract:0151][Dependencies]**Application of therapeutic community model for treatment of patients with substance dependence**Mustafa Celik¹, Behice Han Almis², Aysun Kalenderoglu¹, Oguzhan Bekir Egilmez¹¹Department of Psychiatry, Adiyaman University, Adiyaman, Turkey²Department of Psychiatry, Adiyaman Research and Education Hospital, Adiyaman, Turkey

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OBJECTIVE: The aim of this study was to retrospectively evaluate effectiveness of therapeutic community model in substance dependence patients.

METHODS: Sixty-nine patients were followed as long-term residents in a center accepting substance dependent patients between March 2014 and June 2015. The patients were asked for a control visit 3 months after their discharge from the center. Rate of relapse was evaluated by assessing urine samples during this visit.

RESULTS: Out of the study patients, 68 used cannabis, 41 used heroin, 16 used cocaine, 13 used morphine, 61 used illicit drugs like ecstasy, 46 used synthetic cannabinoids like Bonzai, and 50 used inhalants previously. Only 5 patients (7.25%) were using single substance and 64 patients (92.75%) were using multiple substances. Mean duration of stay was 32.84±34.22 days. Three months after they left the center 46 patients (66.6%) were found to be sober, 8 patients (11.6%) were using cannabis, and 15 (21.7%) patients were using benzodiazepines. Mean duration of stay of sober patients (39.93±36.12 days) was longer than patients who experienced a relapse (18.65±25.18 days) (p=0.014).

Mean duration of stay in our study was 32.8 days excluding detoxification period in the hospital. Previous studies reported durations of stay between 38 and 180 days; therefore, stay time in our study was relatively short.

In this study rate of relapse was 33.3% when benzodiazepine use was accepted as relapse and 11.6% when benzodiazepine use was not accepted as relapse. As these results depend on laboratory substance screening data, they are more reliable than patient's self reports. In a previous study in Turkey Savasan et al found 55% relapse rate at 6th month and 81% relapse rate at 12th month. Many other studies have found increasing relapse rates with increasing follow up periods. Thus, although our results are promising long term results should be seen before making conclusions.

We found lower rate of relapse in patients who stayed longer in our center. This finding was previously reported by many researchers.

CONCLUSION: Relapse rate is high in substance dependent patients after detoxification treatments involving short term hospitalizations. Long-term residential treatments outside hospital, using therapeutic community model and utilizing experience of ex-dependents may be effective to minimize relapse rate.

Keywords: substance dependence, therapeutic community model, relapse

Bulletin of Clinical Psychopharmacology 2016;26(Suppl. 1):S95

[Abstract:0152][Neuroscience: Neuroimaging-Genetic Biomarkers]**Left thalamus MR spectroscopy findings of patients with nonepileptic seizures**Behice Han Almis¹, Birgul Elbozan Cumurcu², Metin Dogan³, Mustafa Celik¹, Taner Bulut⁴¹Department of Psychiatry, Adiyaman University Training and Research Hospital, Adiyaman, Turkey²Department of Psychiatry, Inonu University, School of Medicine, Malatya, Turkey³Department of Radiology, Inonu University, School of Medicine, Malatya, Turkey⁴Department of Radiology, Adiyaman University Training and Research Hospital, Adiyaman, Turkey

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OBJECTIVE: In order to answer the question whether 'there is a neurochemical damage in patients with nonepileptic seizures (NES) which is a common subtype of conversion disorders (CD), we performed a neurochemical assessment in left thalamus involving NAA, Cr, and Cho using MR spectroscopy (MRS).

METHODS: A total of 18 conversion disorder patients with convulsions who had presented to the Inonu University Turgut Ozal Medicine Center Psychiatry Outpatients Clinic and 18 healthy control subjects were included. MRS was performed for both NES group and the control group and NAA, Cho, and Cr values of the groups were compared.

The inclusion criteria for the study for both the patient and the control groups were right-handedness, not taking any psychotropic drugs in the last two weeks, not having a history of any neurological or neurosurgical disorder, no childhood history of a sequel-causing disease and/ or head trauma, no mental retardation or additional medical problem, no alcohol-substance abuse or use disorder in the last year and no other psychiatric and/or personality disorder diagnosis according to the DSM-IV-TR.

The data obtained was analyzed with the SPSS (Version 16.0 for Windows. Fisher's exact chi-square test was used to compare nonparametric data. The Mann-Whitney U test was used for data without normal distribution. Spearman correlation was used to assess the correlation between neuro biochemical parameters and disease duration and frequency of seizures.

RESULTS: There were no statistically significant differences between the patient and control groups for age, gender, and education ($p>0.05$). In NES group; NAA, Cho, and Cr values were significantly lower than the control group ($p<0.001$).

NAA/Cr and Cho/Cr were not significantly different between the groups (respectively, $p=0.171$, $p=0.118$). In the patient group there were no significant correlations between illness duration, seizure frequency and neuro biochemical assessments ($p>0.05$)

CONCLUSION: In previous studies thalamus volume of patients with conversion disorder was found to be significantly smaller than healthy controls. But neurochemical assessment in thalamus has not been performed in conversion disorder. In our study we found decreased NAA which is accepted as a marker of neuronal integrity and function at the left thalamus in patients with NES subtype of CD compared with healthy controls. Similarly, because we found decreased Cho and Cr in the patients group, we think that these findings suggest a metabolic disturbance and neuronal dysfunction at left thalamus in NES patients. We could not find any difference for NAA/Cr ratio which is accepted as a marker for neuronal degeneration at left thalamus between the patients and the controls. This result suggests a functional disturbance in left thalamus without neuronal loss in NES patients. Especially these neurobiochemical disturbances independent from disease duration suggest that neuronal dysfunction might be the cause not the result of this disorder. This result supports the hypothesis that a structural neurologic defect underlies CD. In conclusion, decreased left thalamic NAA level in NES patients independent from disease duration suggest a structural neurologic vulnerability of these patients.

Keywords: conversion disorder, magnetic resonance spectroscopy (MRS), N-acetylaspartate, nonepileptic seizure (NES), thalamus

Bulletin of Clinical Psychopharmacology 2016;26(Suppl. 1):S95-S6

[Abstract:0193][Autism]

Oxidative imbalance in children and adolescents with autism spectrum disorder

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OBJECTIVE: Autism spectrum disorder (ASD) is a heterogeneous group of neurodevelopmental disorders characterized by problems related to social interaction and behavioural area. Studies have suggested a pathophysiological role of oxidative stress, which may be a crucial environmental factor in various psychiatric disorders. Various genetic and environmental factors, including oxidative stress, are believed to play a role in the etiopathogenesis of autism spectrum disorder (ASD). In general, it has been suggested that ASD patients have a weakened antioxidant system. Previous studies have reported lower glutathione peroxidase activity in ASD patients than in controls when measured in erythrocytes. Similarly, lower erythrocyte superoxide dismutase activities were reported in autistic children compared to healthy controls. In this study, we aimed to evaluate total oxidant status (TOS), total antioxidant status (TAS), and the oxidative stress index (OSI) in children and adolescents with ASD.

METHODS: We recruited 33 children and adolescent aged 2-17 diagnosed with ASD and 28 healthy controls (HC), matched for age and gender. Autistic symptoms of these patients were scored on the Childhood Autism Rating Scale (CARS). TOS and TAS values were measured using Rel Assay Kit. OSI was obtained by dividing the TOS by the TAS.

RESULTS: In patients with ASD, TAS was significantly lower and OSI was significantly higher compared to the healthy. There were no significant differences in TOS between the ASD and control groups. In addition, there were no associations between oxidative parameters and severity of ASD (Table 1).

CONCLUSION: Our finding of the decreased TAS in patients with ASD supported previous reports. Oxidative stress may lead to lipid

peroxidation, denaturation of the proteins and DNA damage in neuronal cell. Our findings suggested that oxidative imbalance is present in ASD and that oxidative stress may play a role in the etiopathogenesis of ASD. Therefore, it is suggested that antioxidants may have beneficial effects on ASD and may be a new therapeutic target in treating ASD.

Keywords: autism spectrum disorder, total oxidant status, total antioxidant status, oxidative stress

Table 1: Comparison of the oxidative stress parameters among groups

	ASD	HC	p
TAS	0.40±0.19	0.68±0.24	<0.001*
TOS	45.92±3.58	46.79±3.50	0.297
OSI	16.11±13.54	9.27±8.44	<0.001*

Variables were expressed as mean±standard deviations. *Mann Whitney-U test statistically significant p <0.05, ASD: Autism Spectrum Disorders, HC: healthy control, TAS: total antioxidant status, TOS: total oxidant status, OSI: oxidative stress index

Bulletin of Clinical Psychopharmacology 2016;26(Suppl. 1):S6-S7

[Abstract:0199][Autism]

The evaluation of oxidative stress factors in children with autism spectrum disorders

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OBJECTIVE: Recent studies pointed out that there are found damages of oxidative stress and free radicals are found in different regions of the brain in children with Autism Spectrum Disorders (ASD). These findings suggest a relation between oxidative mechanisms and etiology of ASD, though there were fewer studies have been reported in connection with childhood ASD and oxidative stress.

Homeostasis of Total Antioxidant Status/Total Oxidant Status (TAS/TOS) and thiol-disulphide balance have vital importance for oxidative system, signalling, enzymatic activities, and transcription factor. The role of serum TAS/TOS levels and thiol-disulphide balance in etiology of ASD have not been specifically studied. To the best of our knowledge, this study is the very first study to examine this relationship.

METHODS: Of 50 children admitted by our outpatient clinic with diagnosis of ASD according to the DSM-5 criteria and a control group with 50 healthy children, age- and gender-matched with the ASD group, were selected with the stratified sampling method from three different preschool facilities and another three school with their institutional permission.

The Autism Behaviour Control Checklist (ABC) and Autism Interview Form based on DSM-5 criteria were administered. The Child Autism Rating Scale (CARS) was also administered to the children with ASD.

ASD was diagnosed by two child psychiatrists according to the their clinical evaluations and DSM-5 criteria. All children with ASD, appropriate psychometric test (screening instruments for development or intelligence test) was also carried out. For serum thiol-disulphide balance and TAS/TOS evaluations, blood samples were taken from all participants and they were analyzed in the biochemistry laboratory of Ankara Ataturk Training and Research Hospital.

RESULTS: Two groups were similar regarding their age (month) and gender (p=0.682 and p=0.600, respectively). Laboratory findings revealed that in ASD group, TAS levels (p<0.001), native-thiol levels (p<0.001) and total-thiol levels (p<0.001) were found significantly lowers compared to the healthy subjects. Two groups, on the other hand, were similar in terms of serum TOS levels and disulphide levels (p=0.149 and p=0.761, respectively). Similar to this, both groups were not found different concerning SS/native-SH and SS/total-SH levels (p=0.061; p=0.065, respectively).

CONCLUSION: Our study revealed a deterioration in antioxidant/oxidant balance in ASD group with significant decrease in total antioxidant levels. Total oxidant levels, on the other hand, although it was higher means in ASD group (8.22) than that of control (6.70), this difference did not reach statistical significance.

Similar to this, native-thiol and total-thiol levels were significantly lower in ASD group than the control, whereas SS/native-thiol and SS/total-SH proportions were similar between two groups, with a higher rates in favour of ASD group.

Previous studies suggest that oxidative stress and abnormal DNA methylation could very well play a role in etiopathogenesis of ASD. It might suggest that this might cause cellular damage and an unexpected alterations in epigenetical expression. Our findings would support these interpretations related to the oxidative stress. Therefore, TAS/TOS and thiol-disulphide balance present a potential as

oxidative stress markers for ASD etiopathogenesis and its treatment strategies.

Keywords: autism, oxidative stress, total antioxidant status, total oxidant status, thiol-disulphide balance

Bulletin of Clinical Psychopharmacology 2016;26(Suppl. 1):S97-S8

[Abstract:0203][Anxiety disorders]

Oxidative status and prolidase activities in generalized anxiety disorder

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OBJECTIVE: An imbalance of oxidative status in favour of free radicals (FR) leads to oxidative stress (OS). Noteworthy susceptibility to OS of the brain arouses curiosity to reveal the role of OS in neuropsychiatric disorders.

Evaluating total antioxidant status (TAS), total oxidant status (TOS) and oxidative stress index (OSI) reflects OS more accurately.

Prolidase (Pro) is an intracellular enzyme necessary to release proline and hydroxyproline from the carboxyl terminus of imidodipeptides, taking part in collagen degradation, recycling proline for protein synthesis, matrix remodeling and cell growth. Exposure of proline in brain of rats decreases antioxidant potential, suggesting that proline induces OS.

In this study, we aimed to evaluate OS and its relation with Pro activity in untreated patients diagnosed with GAD.

METHODS: This case-control study comprised thirty psychotropic medication-naive patients diagnosed with GAD who were consecutively recruited among the individuals who first admitted to the psychiatry out-patient unit of the hospital. An equal number of age and gender matched healthy controls with no clinical psychiatric disorder history were also recruited from the community.

All patients and controls were between the ages of 18 and 65. The individuals who had any history of cardiovascular, gastrointestinal, renal, liver, rheumatologic, endocrinal, infectious, neurological diseases and any cancer were not included. All of the individuals were non-smokers and none of them had any substance or alcohol dependence. None of the patients and controls were on any regular medication for at least two months prior to the study. None of the subjects had BMI scores lower than 18.5 and higher than 24.9.

All participants were evaluated by a psychiatrist using SCID-I interviews. The GAD patients with any Axis-I comorbidity were excluded. The controls were all free of Axis-I disorders. Hamilton Anxiety Rating Scale (HARS) was used to determine the anxiety levels of all subjects. Fasting blood samples were collected from all subjects for analysis.

RESULTS: 30 patients and thirty controls showed homogeneity and there was no statistically significant age and gender differences between the groups ($p=0.517$; $p=0.599$ respectively).

HARS scores were statistically significantly higher (28.90 ± 4.08 vs. 5.13 ± 1.41 , $p<0.001$) in GAD patients compared to the control group.

Mean TAS level measured in GAD patients was not statistically significantly different from mean TAS level measured in controls. The GAD group demonstrated statistically significantly higher TOS, OSI and Pro levels, when compared with the healthy control group.

HARS scores were found to be positively and statistically significantly correlated with TOS, OSI and Pro levels ($p=0.008$, $r=0.338$; $p=0.008$, $r=0.339$; and $p<0.001$, $r=0.751$ respectively).

CONCLUSION: The degree of severity of OS is related to Pro activity in untreated patients with GAD. Hence, Pro activity might be the target enzyme of this course, promising to be a marker for the follow-up of GAD patients.

Keywords: generalized anxiety disorder, oxidative stress, prolidase, total oxidant status, total antioxidant status

Bulletin of Clinical Psychopharmacology 2016;26(Suppl. 1):S98

[Abstract:0205][Mood disorders]

The relationship between atypical depression and insulin resistance in patients with polycystic ovary syndrome and depression

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OBJECTIVE: The association between insulin resistance and depression has been reported. But, a few studies examined the relationship between atypical depression and insulin resistance. In this study, we aimed to examine the relationship between atypical depression and insulin resistance (IR) in patients with PCOS and major depression.

METHODS: A total 176 subjects, 69 patients with PCOS, 58 patients with depression and 49 healthy controls, were included in the study. Patients with PCOS were selected from the patients attending the Gynecology and Endocrine outpatient clinics. Women with depression were consecutively admitted to the inpatient psychiatric service. The diagnosis of atypical depression was based on Diagnosis and Statistical Manual of Mental Disorders (DSM-IV) criteria. Exclusion criteria for patients with PCOS and depression were; (1) refusal to participate in the study, (2) aged 18-30, (3). another medical conditions such as diabetes, pituitary, adrenal, or thyroid disorders, (4) morbid obesity (BMI>40), (5) comorbidity of psychiatric disorders. Age-matched female recruited among from hospital staff and nursing students. Control subjects met the following inclusion criteria; (1) healthy volunteer, (2) not currently pregnant, (3) no use of any drugs for psychiatric or medical illness, and (5) no history of substance abuse. A sociodemographic questionnaire, Beck Depression Inventory (BDI), Beck Anxiety Inventory (BAI), Beck Hopelessness Scale (BHS), and Scale for Suicide Ideation (SSI) were administered to all of the participants. Height, weight, fasting morning serum levels of insulin, glucose, and total testosterone levels were collected from the participants. Body mass index (BMI) and The Homeostasis Model Assessment Insulin Resistance Index (HOMA-IR) were calculated.

RESULTS: The mean age and BMI of the three groups were similar ($p>0.05$). According to DSM-IV diagnostic criteria, 34 (49.3%) of the PCOS patients met depression and 26 (76.5%) of them had atypical depression, 8 (23.5%) of them had nonatypical depression. Also, 27 (46.6%) of the 58 depressed patients had atypical depression. The scores of mean Beck Depression Inventory (BDI), Beck Anxiety Inventory (BAI), Beck Hopelessness Scale (BHS), Scale for Suicide Ideation (SSI) of PCOS group were significantly lower than depression group and higher than control group. IR is higher in PCOS patients than in the control subjects and in depression patients. Also, IR and testosterone were no differences in patients with atypical depression and nonatypical depression There was no association between atypical depression and IR in patients with PCOS and depression. A negative correlation between IR and both hopelessness and suicide ideation was found.

CONCLUSION: We found that IR is higher in PCOS patients than in the control subjects and in depression patients. We also found no association between atypical depression and IR in patients with PCOS and depression. These findings would indicate that atypical depression and IR different pathophysiological entities. They are also suggested the possible relationship between impaired glucose metabolism and suicidality.

Keywords: atypical depression, insulin resistance, polycystic ovary syndrome

Bulletin of Clinical Psychopharmacology 2016;26(Suppl. 1):S99

[Abstract:0260][Schizophrenia and other psychotic disorders]**Inflammatory and oxidative markers in schizophrenia**

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OBJECTIVE: In the present study, we aimed to examine whether myeloperoxidase, catalase and malondialdehyde activity has a diagnostic test value in schizophrenia and also examine the relationship between myeloperoxidase (MPO), catalase (CAT), and malondialdehyde (MDA) activity and sociodemographic and clinical characteristics of patients with schizophrenia.

METHODS: Schizophrenia patients (n=60) (diagnosed as schizophrenia according to DSM-V criteria) and 65 healthy control subjects were included in the study. Serum MPO, CAT activity and MDA levels were measured in both groups.

RESULTS: MPO, CAT activity and MDA levels were determined to be significantly higher in the patient group compared with the control group. ROC curve of each parameter was plotted, AUC values for CAT, MDA and MPO were 0.875, 0.884 and, 0.882, respectively. Diagnostic cut-off points for CAT, MDA and MPO were 9.38, 3.93, and 34.56, respectively. Higher values were regarded as disease state for all parameters. ROC curve for combination of all parameters revealed better diagnostic performance, AUC:0.995. PANSS-N scores and MPO activity were positively correlated.

CONCLUSIONS: The study findings indicate that serum CAT, MPO and MDA levels may be a useful diagnostic performance test for schizophrenia. Combination of multiple parameters demonstrate increased diagnostic performance.

Keywords: myeloperoxidase activity, catalase activity, oxidative mechanisms diagnostic performance, inflammatory marker, schizophrenia

Bulletin of Clinical Psychopharmacology 2016;26(Suppl. 1):S100

[Abstract:0262][Mood disorders]**Rates of disruptive mood dysregulation disorder in adolescent children of parents with recurrent depression or bipolar disorder and healthy controls**

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OBJECTIVE: Mood disorders in parents may have an effect on the mental health of their children, increasing the risk of developing mental disorders such as severe mood dysregulation disorder (SMDD) and disruptive mood dysregulation disorder (DMDD), which are characterized with severe and persistent irritability. This study aimed to find whether adolescent children of parents suffering from unipolar or bipolar disorder would more likely to show signs of DMDD compared to matched adolescent children of healthy parents. We hypothesized that DMDD diagnoses would be significantly more common in adolescent offspring of parents with mood disorders compared to the healthy controls.

METHODS: Ethics approval was granted by Abant İzzet Baysal University Clinical Research Ethics Committee, 10/06/2015, Reference number: 2015/48. The study was designed as a single-centre observational cross-sectional case-control study. Parents were evaluated with Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I). Adolescent offspring were evaluated with Kiddie-Sads-Present and Lifetime Version (K-SADS-PL). Additionally SMDD Module as well as DSM-5 criteria for DMDD were screened. Participant inclusion criteria for parents with mood disorders were; age 30- 65 years, recurrent MDD or BP I/ II (assessed via SCID- I), followed at the outpatient department of Psychiatry, are in remission (CGI-S \leq 2, YMRS \leq 5, HAM-D-17 \leq 7). For parents in control group: bringing their adolescent offspring for acute somatic symptoms to the pediatrics outpatient department within the study period, free of lifetime psychopathology

(assessed with SCID-I). A priori power analysis revealed a total sample size of 96 adolescents for 80.0% power at 0.05 alpha levels. DSM-5 DMDD criteria were evaluated by 3 single-blind raters and agreement was evaluated with Kendall's Tau.

RESULTS: 87 adolescent offspring (Unipolar=37.9%, Bipolar=29.9%) with a mean age of 13.7 years (SD=1.5) were included within the study period. The inter-rater agreement for DMDD symptoms and diagnosis was high and statistically significant (Tau=0.76, p=0.00). Four adolescents were diagnosed with DMDD and 6 had sub-threshold symptoms. Both life-time and current DMDD diagnoses tended to be higher in parents with mood disorders although without reaching significance (p=0.07). This difference had a small effect size (Phi=0.18).

CONCLUSION: Unipolar and BP offspring did not differ significantly in terms of DMDD diagnoses.

Keywords: DMDD, mood disorders, offspring, adolescent

Bulletin of Clinical Psychopharmacology 2016;26(Suppl. 1):S100-S1

[Abstract:0343][Epidemiology]

The diagnoses for which psychotropic medications are prescribed in Turkey

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OBJECTIVE: The objective of this study is to examine the diagnoses for which psychotropic medications are prescribed and the extent to which family physicians write prescriptions for psychotropic medications in Turkey by analyzing data from a nationally representative sample of physicians. To our knowledge, this is the first study to examine the main types of psychiatric disorders for which psychotropic medications are used and what extent psychotropic medications are prescribed for non-psychiatric somatic illnesses in Turkey.

METHODS: We used nationally representative audit data from the 2014 IMS Health Turkey Medical Index (TMI) to define ambulatory prescribing patterns by diagnosis for psychotropic medications. TMI selects a random sample of office-based physicians through stratified sampling by specialty and geographic region. The 2014 physician panel consisted of a nationally representative sample of 705 physicians reporting quarterly. We looked at the number of prescriptions written for the purpose of psychotropic medications and focused on the diagnoses associated with recommendations for the following types of psychotropic medications; antidepressants, antipsychotics, anxiolytics, and sedative-hypnotic medications.

RESULTS: The TMI reported an estimated 878 million total drug mentions for the year 2014. With approximately 25 million drug mentions, antidepressants were the most commonly prescribed of the four drug classes examined. Of the total number of antidepressant drug mentions, 93.7% were prescribed for psychiatric conditions. The most common (48.2%) were depression, followed by anxiety disorders (33.5%). Of the total number of anxiolytic drug mentions, 24.6% were prescribed for psychiatric conditions. The most common psychiatric diagnoses were anxiety disorders (comprising 15.8% of all anxiolytic drug mentions), followed by major depressive disorder (4.2%). Almost 75% of anxiolytic drug mentions were for non-psychiatric conditions. Of the total number of antipsychotic drug mentions, 94.1% were prescribed for psychiatric conditions. The most common diagnoses were mood disorders such as major depression (25.2%) and bipolar disorder (15%). The second most common psychiatric diagnosis was schizophrenia or other psychotic disorders (30.6%). The top 3 diagnoses, accounting for 65.6% of hypnotics and sedatives recommendations, were anxiety disorders (32.4%), sleep disorders (23.8%), and major depressive disorder (9.4%).

Of the 25 million prescriptions for antidepressants, 49.1% were written by family physicians, 30.1% by psychiatrists, and 20.8% by other physicians. Family physicians wrote prescriptions for 30.5% of the antipsychotic medications in the sample, 64.5% of the hypnotics and sedatives and 47.5% of the anxiolytics. Psychiatrists wrote prescriptions for 56.7% of the antipsychotic medications, 8.3% of the hypnotics and sedatives, and 28.8% of the anxiolytics.

CONCLUSIONS: Psychotropic medications are one of the most widely prescribed categories of drugs in Turkey. But very little is known regarding the modern day use of their clinical indications. The findings of this study is particularly valuable for evaluating the extent of off-label prescribing, which may serve as a guide to the planning of future research on new applications of existing psychotropic medications and possible labeling changes in order to improve quality and safety of health care services, and to ensure rational use of health care resources

Keywords: psychopharmacology, psychotropic drugs, off-label prescribing

Bulletin of Clinical Psychopharmacology 2016;26(Suppl. 1):S101

[Abstract:0345][Mood disorders]**Levels of interleukin 18, interleukin 6, and cognition in bipolar disorder**

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OBJECTIVE: Cognitive impairment is well defined as a core feature of Bipolar Disorder (BD) and is shown to be an important predictor of personal, social and, professional loss of functionality. Although deterioration in cognitive domains including verbal memory, attention and, executive functions is demonstrated, the neurobiological substrates for the explanation of this impairment have not yet defined. Impairment in immune functions is proposed as a key factor in the cognitive decline in BD however there is scarcity of research on the impact of inflammation on cognitive functions. A correlation between an increase of proinflammatory cytokine levels and impairment of cognitive functions such as memory, executive functions, attention, verbal and visuospatial memory was reported. In this study, we aimed to compare IL-18 and IL-6 levels in BD patients and healthy controls and examine the relationship between IL-18, IL-6 levels, and cognitive impairment.

METHODS: Thirty six patients from outpatient clinic of Karadeniz Technical University School of Medicine diagnosed as bipolar disorder I according to DSM-IV using Structured Clinical Interview for DSM IV axis-I disorders (SCID-I) and who remained euthymic for at least 6 months and 38 age, gender, and educational level matched healthy controls were enrolled in the study. All participants were administered Wisconsin Card Sorting Test, Stroop Test, and REY Auditory Verbal Learning Test as neurocognitive tests. The plasma IL-6 and IL-18 levels of both groups were measured with ELISA kits.

RESULTS: There were no statistically significant differences between IL-6 and IL-18 levels of patient and healthy control groups. In the patient group, IL-18 level was positively correlated with completed categories score on WCST, whereas there was a negative correlation with perseverative response and perseverative errors. Moreover IL-18 level was positively correlated with immediate recall, delayed recall, and learning scores on RAVLT while there was a negative correlation with stroop interference scores. No correlations were found between IL-6 level and neuropsychological test scores in the patient group.

CONCLUSIONS: This is the first study that examined the relation of IL-18 with cognitive functions in bipolar disorders. The only study that recently examined this relation involved schizophrenia patients. Possible detrimental or protective effects of IL-18 in Bipolar Disorder I is not yet clear. However, the positive association of IL-18 level and neuropsychological test scores may be explained with the neuroprotective effects of IL-18 which have been previously reported in viral central nervous system infection models and physiological states.

Keywords: bipolar disorder, cognition, IL-18, IL-6

Bulletin of Clinical Psychopharmacology 2016;26(Suppl. 1):S102

[Abstract:0445][Autism]**Evaluation of levels of erythropoietin and erythropoietin receptor in children with autism spectrum disorders**

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OBJECTIVE: Autism spectrum disorders (ASD) are a neurodevelopmental disorders and underlying etiology of ASD is yet unclear. Erythropoietin (EPO) has emerged as a multifunctional growth factor that plays a significant role in the nervous system. Both EPO and its receptor are expressed throughout the brain in glial cells, neurons and endothelial cells. Recently, it has showed that EPO has a neuroprotective and neurotrophic effects in animal models. Up to now, the levels of EPO and erythropoietin receptor (EPOR) have not been reported in patients with ASD. In this study, we aimed to examine the levels of EPO and EPOR in patients with ASD.

METHODS: The present study included 35 children with ASD diagnosed by DSM-5 criteria and severity of ASD was evaluated with the Childhood Autism Rating Scale (CARS). 30 healthy children were selected as control group. The levels of EPO and EPOR in serum samples

of both groups were measured with enzyme-linked immunosorbent assay.

RESULTS: There were no significant differences between the groups in terms of age and gender ($p>0.05$). We found that the levels of EPO in children with ASD were lower than the control patients ($p<0.05$). Additionally, EPOR levels increased in these patients ($p<0.05$).

CONCLUSION: EPO may be potentially serve as an adjunctive treatment for children with ASD.

Keywords: erythropoietin, erythropoietin receptor, autism spectrum disorders

Bulletin of Clinical Psychopharmacology 2016;26(Suppl. 1):S102-S3

[Abstract:0448][Anxiety disorders]

The levels of erythropoietin and erythropoietin receptor in patients with anxiety disorders

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OBJECTIVE: Erythropoietin (EPO) has a neuroprotective and neurotrophic effects in animal models and affects cognitive and associated neural responses in humans. It is possible that EPO may be a candidate for treatment of psychiatric diseases. Up to now, the levels of EPO and erythropoietin receptor (EPOR) have not been reported in patients with anxiety disorders (AD). In this study, we aimed to examine the levels of EPO and EPOR in patients with anxiety disorders (ADs).

METHODS: Patients with anxiety disorder according to DSM-5 (Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition) ($n=30$) and age- and gender-matched controls subjects ($n=30$) were enrolled in this study. All of the patients were drug-naive patients. All subjects were assessed by a trained clinical psychiatrist. Patients with comorbid depressive disorder were excluded from the study. Hamilton Anxiety Scale (HAM-A) was administered to all participants. Also, EPO and EPOR in serum samples were measured with enzyme-linked immunosorbent assay (ELISA).

RESULTS: HAM-A scores were significantly higher in AD patients compared to the healthy controls. While the levels of EPO in patients with ADs were lower than the control patients ($p<0.05$), EPOR levels were decreased in these patients ($p<0.05$).

CONCLUSIONS: Our findings showed that EPO might be considered as a possible adjunct treatment for anxiety disorders, as well as other stress or associated disorders of impaired neuroplasticity.

Keywords: anxiety disorders, erythropoietin, erythropoietin receptor

Bulletin of Clinical Psychopharmacology 2016;26(Suppl. 1):S103

[Abstract:0449][ADHD]

The levels of erythropoietin and erythropoietin receptors in children with attention-deficit hyperactivity disorder

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OBJECTIVE: Attention-deficit hyperactivity disorder (ADHD) is a heterogeneous, highly heritable, a common childhood neurobehavioural disorder resulting from complex gene-gene and gene-environment interactions. ADHD is affecting 8-12% of school-aged children. The pathophysiology of ADHD is complex and not well understood yet. No specific etiology has been identified for ADHD, and findings are consistent with a multifactorial hypothesis. Erythropoietin (EPO) is an acidic glycoprotein hormone that is produced by the kidney and to a much lesser degree (<10%) the liver. EPO binds to transmembrane epogen receptors (EPOR), which are expressed primarily by hematopoietic progenitor cells but also by nonhematopoietic cells and tissues such as endothelial cells, cardiomyocytes, and neurons, the liver, uterus, and retina. It was showed that EPO has a neuroprotective and neurotrophic effects in animal models. EPO has interesting

properties, which make it a candidate for investigation as a novel therapeutic agent in neuropsychiatric diseases. In humans, EPO administration improves neuropsychological function in patients with schizophrenia, multiple sclerosis, depression, and bipolar disorder. According to our knowledge, up to now, the levels of erythropoietin (EPO) and erythropoietin receptor (EPOR) have not been reported in children with ADHD. The aim of this study is to evaluate the levels of EPO and EPOR in children with ADHD.

METHODS: The present study included 35 children with ADHD diagnosed by DSM-5 criteria. Controls included 35 age and gender-matched healthy children. Children and adolescents were administered the Schedule for Affective Disorders and Schizophrenia for school-age children, lifetime version (KSAD-S). The IQ was assessed by using the manual for the Weschler Intelligence Scale for Children-Revised. The levels of EPO and EPOR in serum samples were measured with enzyme-linked immunosorbent assay (ELISA).

RESULTS: There were no significant differences between the groups in terms of age and gender ($p>0.05$). The levels of EPO were lower in patients with ADHD compared to control ($p<0.05$). On the other hand, EPOR levels were higher in these patients ($p<0.05$). Furthermore, there was a significant and negative correlation between EPO and EPOR levels. The ratio of EPO/EPOR was significantly lower in ADHD patients than controls ($p<0.05$).

CONCLUSIONS: In this study, a lower EPO levels and a higher EPOR levels in children and adolescent patients with ADHD were shown. To the best of our knowledge, this is the first report to examine the association between serum EPO and EPOR levels in ADHD patients. Our results indicated that EPO may play a role in the etiology of ADHD, and EPO therapy may be beneficial in these disorders if given in addition to the routine treatment of children with ADHD.

Keywords: attention-deficit hyperactivity disorder, erythropoietin, erythropoietin receptor

Bulletin of Clinical Psychopharmacology 2016;26(Suppl. 1):S103-S4

[Abstract:0458][Perinatal psychiatry]

Is it possible doing both medical treatment and breastfeeding for acute psychiatric inpatients?

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OBJECTIVE: Maintaining breastfeeding is important issue for postpartum mothers during hospitalization, in terms of leading to cessation and detachment from their babies. It has been proved that all psychotropic drugs can transfer into breast milk, but their levels are very low or even negligible for the newborn. The benefits of breastfeeding are well-known. During hospital stays, pumping the milk maintains the lactation. In this study the aim was to investigate the benefits of pumping breast milk and effects on continuation of breastfeeding.

METHODS: We conducted a prospective study in which 13 hospitalized women that need to continue psychotropic therapy during postpartum and wished to continue breastfeeding after receiving information about breastfeeding while using psychotropic therapy. Until the transition to maintenance therapy, mothers' pump milk and drop for the purpose of preventing cessation, then their milk was collected and given to babies by relatives while hospitalization. After discharge, the information of the status of both mother and child were received by telephone interviews.

RESULTS: A total of 13 mothers hospitalized of which 9 were followed up by telephone interviews and one of them had twin. 10 infants were evaluated. Most of mothers were 30-35 years old and mean age of them was 32.3 years. The educational levels of mothers were 11.07 years (5-15 years). 3 of them had a history of psychiatric disorder in the family. All were married. Furthermore, in the course of clinical interview, bipolar disorder were diagnosed as the most frequent disorder among 8 (61.5%) mothers of the case group and 4 of them had psychotic disorder (30.7%), 2 of them had depression (15.3%). All mothers initiated to pump breast milk in the hospital after receiving information by treatment team. Mean period of total breastfeeding in the postpartum period was 11.15 weeks. Mean period of hospitalization was 29.4 days. No adverse effects were noticed, and the mothers experienced a rapid improvement in their psychopathologies during their hospital stays and had no episode of the diagnosed psychiatric disorders during 6 months following discharge. The infants developed normally and showed no side effects during the treatment period while breastfeeding and after.

CONCLUSION: This study contributed to increase our knowledge about breastfeeding strategies for the mothers need to hospitalized and continue psychotropic therapy during breastfeeding. Furthermore, this study contributed to our understanding of the relationship between maternal education level, the importance of receiving information, and the continuation of exclusive breastfeeding.

Keywords: breastfeeding, hospitalization, inpatients, postpartum, psychotropic drugs

Bulletin of Clinical Psychopharmacology 2016;26(Suppl. 1):S104

[Abstract:0472][ADHD]

Effects of attention deficit and hyperactivity disorder on child maltreatment

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OBJECTIVE: Attention Deficit and Hyperactivity Disorder (ADHD) is a neurodevelopmental disorder that develops with inattention, hyperactivity, and impulsivity, which are not appropriate for age and level of development. In population-based studies questioning adult cases retrospectively in terms of ADHD symptoms and child abuse; the symptoms of childhood ADHD are associated with self-reported child abuse (Our study aimed at children diagnosed with ADHD who applied to the outpatient clinic of child and adolescent psychiatry unit for receiving the treatment. The aim of this study is to compare children diagnosed with ADHD with healthy children, and determine how all types of child abuse would vary between groups.

METHODS: The sample of the study consisted of children aged between 6-12 who presented to the outpatient clinic of Child and Adolescent Psychiatry Unit at Bursa Yuksek Ihtisas Training and Research Hospital between January and June 2015 and were diagnosed with ADHD by a child and adolescent psychiatrist according to the DSM-IV diagnostic criteria. The control group also included healthy children aged between 6-12 who presented to the outpatient clinic of Pediatric Surgery Unit at the same hospital with the pre-diagnoses of circumcision, inguinal hernia or acute appendicitis between the same dates and was evaluated by a child and adolescent psychiatrist. In the both study groups, first the socio-demographic data form that was prepared by researchers were filled in by parents. Then, questions in the Abuse Evaluation Questionnaire were individually asked by a child and adolescent psychiatrist to children in a room without presence of parents.

RESULTS: A total 104 subjects from both ADHD and control groups (20.2% female (n=21), 79.8% male (n=83)) were included in the study. The average age was determined as 9.51 ± 1.71 (min:6, max:12) in the ADHD group and 9.12 ± 1.89 (min:6, max:12) in the control group. No statistically significant differences were found between the age and gender in study groups ($p=0.122$). When ADHD and control groups were compared, it was found that children with ADHD were exposed to a greater physical and emotional abuse and neglect was found at a higher rate in healthy control group, and there were no differences between the groups in terms of being exposed to sexual abuse and domestic violence. In the multiple logistic regression analysis when socioeconomic level, age and parental education were controlled; the independent factors related with ADHD were determined as "behaviors like pulling hair, pulling ear or pinching", "behaviors like slapping, punching or kicking", "hitting with a belt, stick, ruler", "wishing she/ he had never been born or threatening with leaving", "mocking, insulting, giving a name", "not meeting her/his needs despite having money", "thinking that she/ he does not receive adequate care", and "witnessing two adults brawling at home" ($p<0.05$).

CONCLUSIONS: ADHD is a risk factor for physical and emotional abuse regardless of its sub-types and accompanying disruptive behavior disorders. While evaluating the cases, emphasizing this significant feature is important in terms of protection, follow-up, and treatment success.

Keywords: attention deficit hyperactivity disorder, child maltreatment, abuse

Bulletin of Clinical Psychopharmacology 2016;26(Suppl. 1):S105

[Abstract:0549][Mood disorders]**Levels of serum Immunomodulators and its alteration with electroconvulsive therapy in treatment resistant depression**Serkan Zincir¹, Pelin Kartal Ozturk², Ali Emrah Bilgen³, Filiz Izci⁴, Cihad Yukselir⁵¹Department of Psychiatry, Golcuk Military Hospital, Kocaeli, Turkey²Erenkoy Training and Research Hospital for Psychiatric and Neurological Diseases, Psychiatry Clinic, Istanbul, Turkey³Department of Psychiatry, Etimesgut Military Hospital, Ankara, Turkey⁴Department of Psychiatry, Istanbul Bilim University, Istanbul, Turkey⁵Department of Psychiatry, Gulhane Military Medical Faculty, Ankara, Turkey

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OBJECTIVE: Studies in recent years indicate that neuroimmunologic events and immune activation may place in the etiology of depression. Activation of the immune system and excessive release of proinflammatory cytokines such as interleukin-1, interleukin-6, tumor necrosis factor-alpha has been proposed that data on a causal relationship between the etiology of depression. Although ECT's mechanism of action unclear, evidence is available regarding can reduce cytokines and immune system changes. In this study; effects on immune factors (IL-1, IL-4, IL-6, IL-10, TNF-alpha, IFN gamma) in ECT treatment resistant depression patients; prior to ECT, when a clinical response occurred and at the end of ECT were compared with the control group. Changes in immune factors and the relationship between ECT and decrease in depression severity was also examined.

METHODS: The study was conducted with 50 patients with treatment resistant depression. The data of the patients were compared with 30 healthy individuals with similar sociodemographic characteristics. In patients, initially, the clinical response occurred and the end of therapy, IL-1, IL-6, TNF-alpha, IL-10, IL-4, and IFN-gamma levels were measured. The disease severity was assessed with the 17-item HRSD scale.

RESULTS: This prospective, non-randomized, controlled study examined the levels of serum IL-1, IL-6, TNF-alpha, IL-10, IL-4, IFN-gamma, and their alterations due to ECT therapy in patients with treatment resistant depression. It was found that the levels of IL-1, TNF-alpha, and IL-10 were higher in the patients with treatment resistant depression compared to the control group before the treatment. There were no significant differences in the levels of IL-6 before and after the treatment when compared to the control group. It was seen that the increase in the levels of IL-1 and IL-10 and the decrease in the levels of IL-4 and IFN-gamma were statistically significant with the treatment. Additionally, it was found that the severity of depression decreased with ECT. Nevertheless, no significant relationships between the decrease in the severity of depression (decrease in HRSD scores) and the alteration in the levels of IL-1, IL-6, TNF-alpha, IL-10, IL-4, and IFN-gamma was determined after the ECT.

CONCLUSION: ECT may have significant changes in the activity of the immune system. New theories regarding the mechanism of antidepressant treatment, neurobiology of depression, and immune endocrine neurotransmitter systems will all contribute to our understanding and management of treatment resistant depression.

Keywords: treatment resistant depression, ECT, the immune system, cytokines

Bulletin of Clinical Psychopharmacology 2016;26(Suppl. 1):S106

[Abstract:0576][Schizophrenia and other psychotic disorders]**Effectiveness of psychosocial interventions of patients with schizophrenia in Diskapi Community Mental Health Center**Ilker Ozdemir¹, Yasir Safak¹, Erkan Kuru², Akfer K. Kahilogullari¹, Hasan Karadag¹, Sibel Orsel¹¹Department of Psychiatry, Diskapi Yildirim Beyazit Research and Teaching Hospital, Ankara, Turkey²Department of Psychiatry, Dr. Munif Islamoglu Kastamonu Hospital, Kastamonu, Turkey

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OBJECTIVE: Schizophrenia is a chronic, recurrent and one of the most important disorders that cause loss in quality of life, social skills, and general abilities. Current approaches to treatment for schizophrenia suggest that the integration of medication with psychosocial

interventions. Psychosocial interventions mainly are patient and family psychoeducation programs, cognitive rehabilitation programs, social skills training programs and family, and social support programs. These interventions are generally practiced in the community mental health centers. Community mental health center concept is based on the assumption that individuals who need mental health services will make use of such services if they are available in their communities. The objective of this center is to follow up the treatment of the patients with severe mental illnesses such as schizophrenia more frequently in the community. In this study, we aimed to examine the effectiveness of psychosocial interventions on the disease symptoms, functionality, insight, treatment compliance, and caregiver burden in a Community Mental Health Center in Turkey.

METHODS: The participants were 150 patients with schizophrenia from two sites; patients followed at the Diskapi Community Mental Health Center (Diskapi CMHC) (n=100) and patients followed at the Diskapi Research and Training Hospital psychiatry outpatient clinic (n=50). All patients were followed up regularly for at least one year. Patients were evaluated by using Sociodemographic data form, Scale for the Assessment of Negative Symptoms, Scale for the Assessment of Positive Symptoms, Calgary Depression Scale for Schizophrenia, Functional Activities Questionnaire, the Functioning Assessment Test – Short Form, the Schedule for Assessing the Three Components of Insight, Medication Adherence Rating Scale and Zarit Caregiver Burden Interview. The data were analyzed using SPSS Version 21 for Windows.

RESULTS: Demographic characteristics of Community Mental Health Center group and outpatient clinic group were generally similar. When the groups were compared according to scale scores as mean values, statistically significant difference were found in terms of disease symptoms, functionality, insight, treatment compliance, and caregiver burden. Community Mental Health Center group was superior to outpatient clinic group. Correlations of Zarit Caregiver Burden Interview with the Functioning Assessment Test - Short Form were statistically significant for both Community Mental Health Center group and outpatient clinic group.

CONCLUSION: The evidence for the efficacy of pharmacotherapies, psychological interventions, family interventions, vocational rehabilitation, case management, and assertive community treatment is substantial, yet many patients do not receive treatments consistent with this evidence. However, there are not enough studies on the effectiveness of Community Mental Health Center practices in Turkey. This study is one of the pioneering studies in this regard. Results of our study are consistent with other studies in this field. Therefore, we think this study would guide future studies and Community Mental Health Center practices would be more often prepared with similar better outcomes. We recommend to study this hypothesis with large study sample in prospective design.

Keywords: community mental health services, rehabilitation, schizophrenia

Bulletin of Clinical Psychopharmacology 2016;26(Suppl. 1):S106-S7

[Abstract:0598][Schizophrenia and other psychotic disorders]

Examination of the relationship between inflammatory parameters (IL-6, TNF- α , TGF- β) and cognitive functions and severity of symptoms in patients with schizophrenia

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OBJECTIVE: Inflammation hypothesis and in relation to inflammation, cytokine hypothesis have been proposed for schizophrenia etiology. Documented effects of maternal infections and immune activation in schizophrenia, results of genetic studies, influence of immune system and cytokine alterations on neurotransmitter systems, increase in KYNA (kynurenic acid) levels which effect serotonergic and glutamatergic transmission in relation with tryptophan metabolism, and findings about the beneficial effects of antiinflammatory drugs all seem to imply a significant role of inflammation in pathophysiology of schizophrenia. The aim of this study is to compare serum levels of peripheral inflammatory parameters and cognitive functions of schizophrenia patients with the healthy control group, and to examine the relationship between these inflammation parameters and symptom clusters of schizophrenia (positive and negative symptom severity), and cognitive functions of patients.

METHODS: Thirty clinically stable patients with diagnosis of schizophrenia and 29 healthy control participants were included from Marmara University School of Medicine, Pendik Hospital Psychiatry outpatient clinic. Broad neuropsychological test battery was conducted to assess cognitive functions of both groups. Serum IL-6, TNF- α , TGF- β levels were obtained from both groups. Additionally, the Positive and Negative Syndrome Scale (PANSS) was administered to determine the severity of illness for the patient group.

RESULTS: Serum IL-6 and TGF- β levels were found to be significantly higher in the patient group than the control group. No significant differences of serum TNF- α levels were observed between the groups. Global impairment of cognitive functions was observed in patient group compared to the healthy controls. Risk factors that had shown significant difference in univariate analysis of each variable (history of psychiatric illness in family, high IL-6, and TGF- β blood levels), persisted their statistical significance during the logistic regression analysis.

CONCLUSION: According to the results of this study, inflammatory response in clinically stable schizophrenia patients is increased compared to the healthy controls. No correlations were found between inflammatory parameters and symptom severity of illness and cognitive functions of patients. To clarify the significance of inflammation in schizophrenia, further research on serum cytokine levels in clinically stable patient groups, relationship between serum cytokine levels and KYNA levels in different schizophrenia patient groups, and relationship between serum cytokine levels and cognitive functions and symptom clusters in homogeneous patient groups observed prospectively on a broader scale is needed.

Keywords: schizophrenia, inflammation, cytokine, PANSS, cognitive functions

Bulletin of Clinical Psychopharmacology 2016;26(Suppl. 1):S107-S8

[Abstract:0627][Dementia syndromes]

Protective role of selenium on scopolamine-induced memory impairment, oxidative stress, and apoptosis in aged rats: involvement of TRPM2 and TRPV1 channels

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OBJECTIVE: Alzheimer's disease is a progressive neurodegenerative disease. It is known that oxidative stress has an important role in the etiology of dementia including Alzheimer's disease. Ca²⁺ permeable TRPM2 and TRPV1 are activated by oxidative stress. Selenium is an essential dietary trace element and it acts as a cofactor for the glutathione peroxidase (GSH-Px) enzyme and is incorporated into selenoproteins involved in antioxidant defenses. Recent reports indicated that selenium is a potent TRPM2 and TRPV1 channel antagonist in the hippocampus. The aim of this study was to examine the effects of selenium in the hippocampal neuron cultures and on memory by using radial arm-maze task in scopolamine-induced dementia model of aged rats.

METHODS: Thirty two aged (18-24 months old) rats were used in the current study. The rats were divided into 4 groups (8 animals per group): control group received 0.9% NaCl for 14 days; scopolamine (Scop)-treated group for 21 days; Se-treated group for 14 days; Se-treated after Scop-treated group (Scop+Se) that the group received firstly Scop for 3 weeks and then received Se for 14 days. Scopolamine-induced memory impairments were assessed by using radial arm-maze task. Initially, the 32 rats received training for 14 days and their working and reference memory errors were recorded on the 15th day. When the groups completed the experimental procedure they were re-tested in radial arm-maze. When the rats completed experimental procedure they were sacrificed. The brain cortex and hippocampal samples were isolated. The half of the hippocampal samples were immediately used for patch-clamp and Ca²⁺ signaling analyses. In the remaining neurons; GSH, GSH-Px, and lipid peroxidation analyses were performed.

RESULTS: We found that [Ca²⁺]_i accumulation and current densities through TRPM2 and TRPV1 channel activity in the hippocampi of rats were increased by scopolamine although they were decreased by selenium treatment ($p < 0.05$). Scopolamine-induced apoptosis, Poly (ADP-ribose) polymerase, cell viability levels, caspase 3 and 9 activities through TRPM2 and TRPV1 channel activations in the hippocampal neurons were markedly decreased in groups by Se treatments ($p < 0.05$). The JC-1 and ROS levels in the hippocampal neurons were significantly higher in the Scop group than the control group ($p < 0.05$, $p < 0.001$, respectively). The ROS and JC-1 levels were significantly lower in Se group than the Scop group ($p < 0.05$). Lipid peroxidation levels in hippocampal neurons were significantly higher in the Scop group than the control group although GSH-Px and GSH levels were decreased by the Scop treatment ($p < 0.001$). However, the values were recovered by the selenium ($p < 0.05$). Working and reference memory errors significantly decreased after Se treatment in Se group ($p < 0.05$) and also significantly increased after Scop administration in Scop group ($p < 0.05$). The working and reference memory errors were found significantly different for three distinct measurements in Scop+Se group ($p < 0.05$).

CONCLUSION: Results of current study report for the first time that selenium may have remarkable neuroprotective effects in the hippocampal neurons at a cellular level and memory improvement effects in scopolamine-induced dementia model of aged rats. It seems that TRPM2 and TRPV1 channels may become an important pharmacological target in the treatment of AD and dementia-induced oxidative hippocampal injury.

Keywords: alzheimer dementia, oxidative stress, rat, selenium, TRPM2, TRPV1

Bulletin of Clinical Psychopharmacology 2016;26(Suppl. 1):S108-S9

[Abstract:0664][Schizophrenia and other psychotic disorders]

Behavioral and molecular effects of MK-801 administration in newborn and adolescent rats

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OBJECTIVE: Schizophrenia is considered to be a neurodevelopmental disorder and the disease process occurs in several stages. In addition to some of the early developmental factors that affect the development and function of the brain during perinatal period, pathological changes that occur during adolescence are suggested to initiate the symptoms of the disease. Since NMDA antagonists cause symptoms of schizophrenia in healthy humans, they are being used to model schizophrenia in animals. GABAergic system is also shown to have an important role in the etiology of schizophrenia and glutamic acid decarboxylase 67 (GAD67) expression is considered as one of the most important indicators of the GABAergic activity. The aim of this study is to investigate the behavioral and neurobiological changes occurring in adolescent and adult rats after administration of NMDA antagonist MK-801 in neonatal and adolescent periods. Neonatal and adolescent periods are critical periods of neurodevelopment, and investigating the long term behavioral and molecular effects of interventions at these periods on adult rats may help us understand the neurobiology of schizophrenia.

METHODS: 60 rats were included in the study. Groups were formed considering the administration of saline or MK-801, and specific dates of administration. Rats in groups which were administered saline or MK-801 at neonatal period had behavioral tests at adolescence or adulthood, while rats in groups which were administered saline or MK-801 at adolescent period had behavioral tests at adulthood. After completion of behavioral tests, rats were sacrificed for further molecular studies.

RESULTS: The results showed that neonatal administration of NMDA antagonist caused deterioration in working and reference memory in adolescent rats, and deterioration in reference memory in adult rats. MK-801 administration at adolescence did not cause a significant change in reference and working memory in adult rats. Neonatal MK-801 administration did not change GAD67 expression in prefrontal cortex and hippocampus significantly at adolescence and adulthood.

CONCLUSION: This study is important as the long term effects of administration of NMDA antagonists at critical periods of neurodevelopment, both neonatal and adolescent periods, is examined. The results of this study supports the neurodevelopmental hypothesis of schizophrenia. The deterioration in cognitive functions in adolescence shows the impact of interventions in neonatal period. The long term influence of NMDA antagonist application on the GAD67 expression in prefrontal cortex and hippocampus should be further studied.

Keywords: NMDA receptor, MK-801, animal model, schizophrenia

Bulletin of Clinical Psychopharmacology 2016;26(Suppl. 1):S109

[Abstract:0693][Neuroscience: Neuroimaging-Genetic Biomarkers]

Maternal epilepsy and Intrauterine antiepileptic exposure and their relationship between neurodevelopmental and psychiatric disorders in children

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OBJECTIVE: Epilepsy is an important neurologic disease which affects 1 in every 200 pregnancies. In Turkey, it is estimated that about 10,000 children is exposed to maternal epilepsy-related complications and prenatal antiepileptic drugs in each year. In recent years, there is an increasing amount of publications which claim that maternal epilepsy and antiepileptic drug use during pregnancy is one of the most important topics for understanding the etiology of neurodevelopmental and psychiatric disorders in children. Unfortunately, there are only a few clinical studies examining these relationship. The aim of this study is to examine the relationship between maternal epilepsy, prenatal antiepileptic exposure, and neurodevelopmental and psychiatric disorders in children. Another aim of the study is to evaluate serum level of Nerve Growth Factor (NGF) ve Glial Cell Derived Neurotrophic Factor (GDNF), which are considered to play a role in the pathophysiology of the relationship between developmental disorders of antiepileptic exposure.

METHODS: Fifty-three children, aged between 2 and 6 years, who have epileptic mothers were included in the study group. Fifty-three age and gender-matched children whose mothers do not have epilepsy diagnosis were included in the control group. Data were collected by using Vineland Adaptive Behavior Scale for evaluating adaptive skills, Denver II Developmental Screening Test for evaluating intellectual functions, Strengths and Difficulties Questionnaire for evaluating the risk of psychopathology, and Autism Behavior Checklist for screening autism symptoms. The serum levels of NGF and GDNF were measured in the study and control groups by ELISA kit.

RESULTS: The global developmental scores of study group were significantly lower than the control group. Post hoc analysis revealed that prenatal antiepileptic exposure is responsible for the outcome. Confounding factors were excluded and preconceptional use of folate had protective effects against these negative effects. Three of the 34 cases which had prenatal antiepileptic exposure was diagnosed with Autism Spectrum Disorder. The risk of any psychopathology was significantly higher in children whose mothers had epilepsy. Serum GDNF level was found to be a candidate biomarker with 0.66 sensitivity and 0.75 specificity to determine the global developmental delay in children with epileptic mothers. Statistically significant positive correlations were found between the serum level of NGF and global developmental scores.

CONCLUSION: In sum, the data from this study reveals that prenatal exposure to AEDs increases the risk of global developmental delay and ASD and preconceptional use of folate reduces the risk of these disorders. Clinicians should be aware of using antiepileptic drugs in pregnant patients and they should recommend preconceptional use of folate. Serum GDNF levels may be a useful biological marker to determine global developmental delay. The neurodevelopmental outcomes of prenatal antiepileptic exposure, maternal epilepsy, and the mechanism related to the outcomes are further needed to be studied in larger samples.

Keywords: antiepileptic drugs, epilepsy, neurodevelopmental outcomes, pregnancy

Bulletin of Clinical Psychopharmacology 2016;26(Suppl. 1):S110

[Abstract:0727][Neuroscience: Neuroimaging-Genetic Biomarkers]**The relationship between surgical and natural menopause with cognitive functions, serum BDNF, plasma annexin V, and oxidative stress**Atakan Yucel¹, Halil Ozcan², Elif Oral³, Nermin Yucel⁴, Seckin Ozkanlar⁵, Mehmet Yilmaz⁶¹Department of Psychiatry, Erzurum Regional Education and Research Hospital, Erzurum, Turkey²Department of Psychiatry, Ataturk University, School of Medicine, Erzurum, Turkey³Department of Psychiatry, Izmir Katip Celebi University, School of Medicine, Izmir, Turkey⁴Department of Child and Adolescent Psychiatry, Ataturk University, School of Medicine, Erzurum, Turkey⁵Department of Biochemistry, Ataturk University, Faculty of Veterinary, Erzurum, Turkey⁶Department of Obstetrics and Gynecology, Ataturk University, School of Medicine, Erzurum, Turkey

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OBJECTIVE: The aim of this present study is to demonstrate the effects on cognition of sudden withdrawal of estrogen in subjects with surgical menopause (SM) compared to subjects with natural menopause (NM) and controls using neurocognitive tests and biomarkers including annexin V, BDNF, and oxidative stress parameters.

METHODS: SM, NM, and control, groups had 40 women were all administered neurocognitive tests. The level of serum BDNF, TOS, TAS, and plasma annexin V levels were measured.

RESULTS: There were no significant differences between the groups in terms of age and other sociodemographics. The SM group showed the lowest performance and control showed the highest performance in the attention, memory, verbal fluency, and executive functions. Annexin V, TOS, OSI (TOS/TAS) levels were similar in NM and controls and statistically significantly higher in the SM group. TAS and BDNF levels were lower in the SM group compared to the NM and controls while they were comparable in the NM and controls. In the SM group, there were positive correlations between annexin V and trail making B and Stroop 5; negative correlations were found between annexin V levels with phonemic fluency, digit span forward, digit span total score, the total score of Rey Auditory Verbal Learning Test (RAVLT) 1-5, RAVLT 7 and RAVLT correctly remembered test scores. Negative correlations were found between BDNF and trail making test B, Stroop 3 and 5 test; positive correlations were found with BDNF and categorical fluency, digit span forward, RAVLT 5, RAVLT 1-5 total score, and RAVLT 7. There were negative correlations with TOS and digit span forward, digit span backward, digit span total score, and RAVLT 7. Also negative correlations were found with TAS and trail making B, Stroop 5; positive correlations were found with categorical fluency, digit span forward, digit span total score, RAVLT 5, RAVLT 1-5 total score, and RAVLT 6.

CONCLUSION: Cognitive functions are affected by SM and apoptotic mechanism, neuroprotective process, and oxidative mechanism associated with cognitive decline in the SM group.

Keywords: annexin V, BDNF, cognitive functions, menopause, oxidative stress

Bulletin of Clinical Psychopharmacology 2016;26(Suppl. 1):S111

[Abstract:0737][ADHD]**The relationship between DAT1 Gene and effects of methylphenidate use in adult ADHD: a magnetic resonance spectroscopy study**Ayse Nur Inci Kenar¹, Gonca Ayse Unal², Hale Guler³, Burcu Albuz¹, Yilmaz Kiroglu⁴, Mehmet Emin Erdal³, Hasan Herken¹¹Department of Psychiatry, Pamukkale University, School of Medicine, Denizli, Turkey²Psychiatry Clinic, Kozan State Hospital, Adana, Turkey³Department of Medical Biology and Genetics, Mersin University, School of Medicine, Mersin, Turkey⁴Department of Radiology, Pamukkale University, School of Medicine, Denizli, Turkey

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OBJECTIVE: There are only 3 studies examining the relationship between DAT1 gene polymorphism and the effects of methylphenidate (MPH) use in adult ADHD. Only, one of them have reported an association between DAT1 gene polymorphism and response to MPH. Yet, there was no study examining the relationship between DAT1 gene polymorphism and response to MPH by magnetic resonance

spectroscopy (MRS). In this study, we aimed to evaluate the relationship between DAT1 gene polymorphism and the effects of MPH use on N-acetyl aspartate (NAA), creatine (Cr) and choline (Cho) levels in striatum, prefrontal cortex (PFC), cerebellum, and anterior cingulate cortex (ACC) in adult ADHD patients.

METHODS: A total of 60 patients aged between 18-60 having ADHD according to DSM-IV criteria were included in the study. Genetic analysis for DAT1 VNTR polymorphism was carried out from blood samples obtained after the detailed clinical evaluation of patients. Values of NAA, Cr, Cho in striatum, PFC, cerebellum, and ACC were measured with MRS. After baseline MRS measurements, 10 mg oral MPH was given to the patients and the same metabolite levels were measured after 30 minutes of the MPH intake.

RESULTS: Distribution of the patients according to DAT1 VNTR polymorphism genotypes was as follows: 5.0% of them have 9/9 genotype, 46.7% of them have 10/9 genotype, and 48.3% of them have 10/10 genotype.

In this study, before and after MPH use, no significant differences were found in levels of Cho, Cr, and NAA among the DAT1 gene VNTR polymorphism genotypes ($p>0.05$). After MPH use, a statistically significant increase was found in Cr levels in the cerebellum compared to Cr levels before MPH use in the patients having 10/10 genotype of DAT1 VNTR polymorphism ($p=0.008$).

CONCLUSION: In ADHD, it is known that cerebellar blood flow and glucose metabolism is low, and these findings normalize after psychostimulant therapy. In this study, an increase in previously decreased blood flow after MPH therapy may induce increase of Cr levels due to hypometabolic status which did not normalize in the cerebellum of the patients with 10/10 genotype. This can be regarded as irresponsiveness and/ or poor response to MPH. Previous studies have reported that 10/10 genotype of DAT1 VNTR polymorphism was much more strongly related with the hyperactivity symptoms of ADHD and such like with the combined ADHD subtype than with inattentive ADHD subtype or the inattentive symptoms. It is reported that dysfunction in the cerebellum could be responsible from the motor signs in ADHD. In the present study, it was determined that 72.4% of the patients having 10/10 genotype were in the hyperactivity and combined subtype. As a result, it can be suggested that cerebellum activation is lower in the patients having 10/10 genotype compared to the other genotypes. Since hypometabolic status did not normalize in the cerebellum after MPH use, it can be the reason for an increase in Cr levels. However, it makes us to think about an irresponsiveness and/ or poor response to MPH.

Consequently, our results suggested that 10R allele of DAT 1 gene VNTR polymorphisms might be associated with MPH-related changes in brain metabolites in ADHD participants.

Keywords: adult attention deficit hyperactivity disorder, methylphenidate, DAT1, magnetic resonance spectroscopy

Bulletin of Clinical Psychopharmacology 2016;26(Suppl. 1):S111-S2

[Abstract:0078][PTSD]

Psychometric properties of the Turkish version of the PTSD Checklist for DSM-5 (PCL-5)

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OBJECTIVE: The PTSD Checklist (PCL) is the most widely used screening tool in assessing posttraumatic stress disorder (PTSD) symptomatology. Thus far, majority of structural investigations of PTSD symptoms have supported the four-factor models and inconsistency patterns found with regard to PCL is in agreement with the literature call into question the three-factor structure of the PTSD Checklist for DSM-IV. The final version is advanced to a four factor structure mapping onto DSM-5 symptom clusters stipulated for PTSD which is more congruent with advances in the literature. Research on previous versions of the PCL occasionally had a foci limited to military, clinical, and male samples. The aim of the study was to assess psychometric properties of the Turkish version of the PTSD Checklist for DSM-5, the revised version conformed to the advances in DSM-5.

METHOD: The sample consisted of 462 participants. The control group consisted of 360 adults and college students who reported not having any diagnosis of current psychiatric conditions. Psychiatric group was comprised of 73 outpatients with depression and 29 outpatients with PTSD, with a total of 102 patients consecutively admitted to psychiatry clinics of university hospital. Respondents completed the PTSD Checklist-DSM 5 (PCL-5), Trauma Symptom Checklist-40 (TSC-40), Life Events Checklist for DSM-5 (LEC-5), Dissociative Experiences Scale (DES), Beck Anxiety Inventory (BAI), Beck Depression Inventory (BDI), and Posttraumatic Cognitions Inventory (PTCI). The subjects provided written consents and were administered psychometric instruments. The study procedure was approved by the Ethical Committee of Yuzuncu Yil University.

RESULTS: We found a-four-factor solution best fit to the data providing support for the vast array of PTSD research. The PCL-5

demonstrated good reliability with composite reliability coefficient alphas of re-experiencing (0.79-0.92), avoidance (0.73-0.91), negative alterations (0.85-0.90), and hyper-arousal (0.81-0.88) and temporal reliability with two-week test re-test intra-correlation coefficients of 0.70, 0.64, 0.78, and 0.76, respectively. Strong associations of the total and sub-scale scores of the PCL-5 with other measures of trauma-related symptoms were indicative of construct validity of the screening tool. The current investigation suggested a cut-off score of ≥ 48 for PTSD diagnosis.

CONCLUSION: Given the ubiquity of lifetime potentially traumatic experiences, the need to develop effective and accurate evaluation process is increasingly beneficial, especially with respect to assessment of PTSD diagnosis and symptom severity. Ease of administration and scoring, and psychometric soundness of the PCL-5 makes the measure promising for more prevailing use for a more thorough evaluation of PTSD symptoms. These results show the utility of the PCL-5 as an assessment tool for both clinical and non-clinical purposes.

Keywords: PTSD, factor structure, anxiety, dissociation, posttraumatic cognitions

Bulletin of Clinical Psychopharmacology 2016;26(Suppl. 1):S112-S3

[Abstract:0088][Schizophrenia and other psychotic disorders]

IL-4, TGF- β , NF- κ B, and MPO levels patients with treatment resistant schizophrenia

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OBJECTIVE: Schizophrenia is a chronic psychotic disorder where genetics and environmental factors such as infection and the corresponding immune response play a role in the etiopathogenesis. Although there have been many discussion on the potential of changes in the pro-inflammatory cytokines in schizophrenia, the role of the anti-inflammatory signals has drawn less attention in this regard. This is striking in terms of intertwined nature of the anti-inflammatory and pro-inflammatory systems. The changes in inflammatory response are known to be more significant in treatment resistant schizophrenia patients. The effect of antipsychotic drugs on cytokine networks is also known as an important confounding factor. Studying treatment resistant schizophrenia patients is crucial in terms of revealing whether a different inflammatory process has been operating in these patients. We therefore aimed to examine anti-inflammatory cytokines such as IL-4 and TGF- β , which have been less intensively studied and yielded contradictory results, and the levels of other inflammation markers such as NF- κ B and MPO that are included in the early stages of the immune response in treatment resistant schizophrenia patients.

METHOD: Plasma levels of Interleukin-4 (IL-4), transforming growth factor- β (TGF- β), myeloperoxidase (MPO), and nuclear factor- κ B (NF- κ B) activation in 20 patients with treatment resistant schizophrenia and 20 age- and gender-matched healthy controls were examined. Disease severity was evaluated using the Brief Psychiatric Rating Scale (BPRS).

RESULTS: Serum TGF- β levels were found to be significantly lower and NF- κ B to be significantly higher in antipsychotic treatment-resistant schizophrenia patients compared to the controls. No significant differences were found between the patient and control group for serum IL-4 and MPO levels.

CONCLUSION: The results of this study showed that the levels of TGF- β were significantly lower and the levels of NF- κ B were significantly higher in antipsychotic treatment resistant schizophrenia patients compared to the controls. TGF- β is known to have a regulatory effect on the balance of Th1 and Th2 cytokines. The low TGF- β level in the period where psychotic symptoms had exacerbated (mean BPRS score 67) in treatment resistant schizophrenia patients can be explained by the inadequacy in providing Th1/Th2 balance. NF- κ B is another marker of inflammation and plays an important role in signal path axon growth, activity-dependent plasticity, and cognitive functions. Evidence supporting the role of NF- κ B in schizophrenia is available. Higher levels of NF- κ B signaling activation has been reported in peripheral blood mononuclear cells in first-episode schizophrenia patients who were medication naive. Similarly, we found increased NF- κ B activation in treatment resistant schizophrenia patients. No significant changes were found in terms of levels of IL-4 and MPO, which are other anti-inflammatory cytokines. Large-scale future studies where both pro-inflammatory and anti-inflammatory cytokines are included are required to reveal the role of inflammatory factors in the development of schizophrenia.

Keywords: schizophrenia, IL-4, TGF- β , NF- κ B, MPO

Bulletin of Clinical Psychopharmacology 2016;26(Suppl. 1):S113

[Abstract:0140][Psychopharmacology]**The relationship of sexual dysfunction gene variance prolactin levels and the disorders in pharmacotherapy with antipsychotics**

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OBJECTIVE: Schizophrenia and bipolar disorders are psychiatric disorders in which lifetime prevalence rates are 1%. Clinical course and outcomes of them differentiate between patients and may cause significant disability. Antipsychotics, the basic treatment agent for schizophrenia, is widely used for bipolar disorder. The sexual dysfunction (SD) due to antipsychotic drugs have important outcomes that can lead to impaired quality of life, disruption of drug compliance, worsening of psychiatric disorders, and leave treatment. We aimed to examine the association of sexual dysfunction in patients whose receiving antipsychotics with prolactin levels and clinical features of schizophrenia and bipolar disorders and genetic variances (genetic s in the D2 dopamine receptor (DRD2), endothelial (eNOS), and neuronal nitric oxide synthase (nNOS), and uridine glucuronyl transferases(UGT)1A1).

METHODS: One hundred and eleven outpatients were enrolled in this study who are with remission or partial remission, diagnosed with schizophrenia and bipolar disorder according to the criteria of the DSM IV-TR. Patients were 18-65 years of age, had received at least 6-months of treatment with an antipsychotics. Exclusion criteria are diabetes mellitus, hypertension, mental retardation, neurological and urological diseases, alcoholics, substance abuse except smoking, mental retardation, inability to give informed consent or answer questions. While SAPS, SANS, and Calgary were administered to schizophrenia patients, Hamilton, Young Mania rating scale were administered to bipolar patients, and CGI, ASEX were administered to both patient groups.

RESULTS: The prevalence of sexual dysfunction is 45.9% in patients with schizophrenia, and 59.5% in with bipolar disorder. There were no significant differences between male and female sexual dysfunction prevalence in schizophrenia and bipolar patients. In SD group, education levels were significantly lower, ages and amount of smoking were significantly higher than Non-SD group in overall patients. In the group of patients who were receiving atypical antipsychotics, severity of positive symptoms was significantly higher in SD group than Non-SD group. On the other hand the group of patients who were receiving typical or concomitant typical and atypical antipsychotics, severity of negative symptoms were significantly higher in SD group, than Non-SD group. In concomitant use of antipsychotics and antidepressant the prevalence of SD was higher in schizophrenia than single use antipsychotics, while there were not any significant differences about average scores of scales Calgary, SAPS, SANS, CGI, and duration of illness. When we compare the SD group with the Non-SD group, there were no significant differences in their average prolactin levels. Prolactin levels were higher in female schizophrenia patients than in male but not for SD. The frequencies DRD2 Ins/Del, Taq1A polymorphisms and alleles were similar between SD and Non-SD group in overall patients. For schizophrenia patients the frequency rate of eNOS786C TT polymorphism and eNOS786C T allele were higher in SD group than Non-SD group. In logistic regression; In with smoking, age and eNOS786C T, 1,36-fold increased risk for SD in overall patients although that wasn't significant (p=0.69, OR:1.36).

CONCLUSION: As a result of this study, amount of smoking, age, lower education levels, severity of positive and negative symptoms, concomitant use of antipsychotics and antidepressants, having eNOS786C TT polymorphisms and T alle and eNOSG894TT allele may lead to higher SD when receiving antipsychotics.

Keywords: sexual dysfunctions, antipsychotics, schizophrenia, bipolar disorder, genetic

Bulletin of Clinical Psychopharmacology 2016;26(Suppl. 1):S114

[Abstract:0154][PTSD]**Psychometric properties of the Turkish version of the clinician-administered PTSD scale for DSM-5 (CAPS-5)**Murat Boysan¹, Pinar Guzel Ozdemir², Ekrem Yilmaz², Yavuz Selvi³, Osman Ozdemir², Mehmet Celal Kefeli²¹Department of Psychology, Yuzuncu Yil University, School of Arts, Van, Turkey²Department of Psychiatry, Yuzuncu Yil University, School of Medicine, Van, Turkey³Department of Psychiatry, Selcuk University, School of Medicine, (SUSAB, Neuroscience Research Unit), Konya, Turkey

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OBJECTIVE: In the subsequent revision of Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5; American Psychiatric Association, 2013) symptoms of diagnostic criteria for posttraumatic stress disorder (PTSD) are defined in four clusters and the number of PTSD symptoms was expanded to 20. The Clinician-Administered PTSD Scale (CAPS) is the most widely used structured clinical interview and recognized as the golden standard in PTSD diagnosis. The final revision of the clinical interview form as the Clinician-Administered PTSD Scale for DSM-5 (CAPS-5) was advanced in line with the recent revisions in DSM-5 with regards to the PTSD definition. The aim of this study was to investigate the psychometric properties of the CAPS-5 in clinical samples and healthy controls.

METHOD: In the present study, the authors initially computed descriptive statistics for 30 inpatients with PTSD and 30 inpatients with major depressive disorder consecutively admitted to our psychiatry unit as well as 30 controls. All participants were included if only reported an index trauma in the Life Events Checklist for DSM-5 (LEC-5) that bothered them during the past month. Subjects were administered a socio-demographic questionnaire, the Dissociative Experiences Scale (DES), Beck Depression Inventory (BDI), Beck Anxiety Inventory along with the LEC-5, CAPS-5 and PCL-5. We used confirmatory factor analysis to compare a structured clinical interview (CAPS-5) and a self-report measure, the PTSD Checklist for DSM-5 (PCL-5) and to examine DSM-5 implied four symptom clusters and several factor structures proposed in the literature to understand which model best represents the latent factor structure of PTSD symptoms. Using multivariate analysis of variance (MANOVA), concurrent validity of both self-report and structured clinical interview was evaluated. Receiver operating characteristics (ROC) curve was utilized to detect an optimal cut-off value of the PCL-5 scores in order to use it in demarcating cases with non-cases.

RESULTS: Even though DSM-5 implied 4-factor models fit adequately to each measure of PTSD, the latent structure of PTSD symptoms measured by either CAPS-5 or PCL-5 were best represented by 6-factor Externalizing Behaviors model, particularly compared to 7-factor hybrid model. In comparison to depressive and control groups, PTSD patients reported greater scores on the PCL-5, DES, BDI, and BAI and McNemar χ^2 values between two applications with two weeks interval were unsubstantial. Additionally, PTSD patients exhibited greater symptom endorsement on B, C, D, E, F, G symptom clusters and dissociative subtype than depressive patients and controls. PCL-5 had excellent diagnostic utility with 0.90 sensitivity and 0.80 specificity on a cut-off score ≥ 47 .

CONCLUSION: Turkish versions of the CAPS-5 and PCL-5 are demonstrated to have excellent psychometric properties. Implications regarding the findings are discussed.

Keywords: concurrent validity, depression, factor structure, pathological dissociation, posttraumatic stress disorder, PTSD Checklist for DSM-5 (PCL-5)

Bulletin of Clinical Psychopharmacology 2016;26(Suppl. 1):S115**[Abstract:0188][Cultural psychiatry]****Investigation of the features of monogamous and polygamous marriages, in Diyarbakir, Turkey**

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OBJECTIVE: Polygamy is illegal in Turkey. However, it is a common condition in rural areas like the Southeastern part of Turkey. According to official public data, the proportion of polygamous marriages in Turkey is almost 2%. Polygamy can have certain effects on all family members, including the wives, husbands, and their children. In Turkey, polygamous marriages might also contribute to poor interpersonal relations due to the marital conflicts. Marriages may have been confirmed for the younger girls by their parents without

taking considerations or consultations from the girl to be married, and mostly strongly disapproved by them. At this point, knowledge of any risk factors could improve the disturbed family structure as well as mental health in all family members.

In this present study, we aimed to examine different sociodemographic and clinical variables of polygamous and monogamous husbands and the relationships between monogamous and polygamous marriages.

METHOD: One hundred and four polygamous husbands and 56 monogamous husbands from Diyarbakir province which is located in the Southeastern region of Turkey, were interviewed, by the trained researchers. Monogamous and polygamous husbands were administered the Symptom Checklist 90 Revised (SCL-90-R).

RESULTS: Polygamous husbands' first marriage age was 20.73 (SD 5.87), whereas monogamous husbands' marriage age was 23.63 (SD 5.24). Average age of second marriage was 34.41 year. Our findings show that about 75% of the husbands were content from their polygamous marriages. 46.15% of husbands reported that even if they can return to the past, they would have done the second marriage again. When their average age was examined, senior wives, junior wives, and monogamous wives were 48.19, 37.43 and 43.48 respectively. There was a significant difference between senior wives and junior wives' ages in polygamous marriages. Polygamous husbands' general severity index subscore in SCL-90-R, along with their psychoticism, hostility, and phobic anxiety's sub-scores were significantly higher than the scores of monogamous husbands.

CONCLUSIONS: Husbands in polygamous relationships were found it difficult to meet the needs of all their wives and children, and yielded in unhappy and economically burdened families. Based on these findings, some husbands may have been guided to make more reasonable decisions and if they would have an opportunity, they would not marry again. It should be noted that polygamy is a complex phenomenon with deep cultural, social, economical, and political roots that has been associated with child's, husband's and wife's mental health status. Likewise, many of the mental health symptoms may have been occurred differently. Our findings demonstrate that, this condition is associated with higher risk for psychiatric disorders among wives independent of their education, family SES, and household composition. On the other hand, polygamous husbands may have been affected due to their unhappy wives and children in many life areas. It should be remembered that especially social support has some protective to prevent mental health problems. The study findings highlighted many implications for clinical practice and for future research.

Keywords: husband, marriage, monogamy, sociodemographic features, polygamy

Bulletin of Clinical Psychopharmacology 2016;26(Suppl. 1):S115-S6

[Abstract:0192][Autism]

Do the nitric oxide-arginine pathway and urotensin-II contribute to the pathogenesis of autism spectrum disorder?

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OBJECTIVE: Autism spectrum disorder (ASD) is a neurodevelopmental disorder leads to high level of impairment in social interaction and behavioral area. Although etiopathogenesis of ASD has not yet been clarified, it has been thought that the multiple genetic and environmental factors contribute to its ethology. The present study was aimed to evaluate the levels of nitric oxide (NO), arginase and Urotensin-II (U-II) which are possible environmental factors in patients with ASD in comparison to the healthy controls (HC).

METHODS: Thirty three children and adolescent diagnosed with ASD, aged 2-17 years, and 28 HC matched for age and gender were recruited in this study. NO level were determined using Nitrate/ Nitrite Colorimetric Assay Kit. U-II and arginase levels were determined using ELISA kits. Autistic symptoms of the patients were evaluated via the Childhood Autism Rating Scale (CARS).

RESULTS: NO levels were found to be significantly higher and arginase levels lower in patients with ASD compared with HC. There were no any significant differences in U-II levels between the ASD and HC group. Any association between the arginase, NO, U-II levels and CARS scores of patients with ASD were not found.

CONCLUSIONS: An imbalance in favor of increased oxidants and/ or decreased antioxidant capacity in the cell leads to oxidative stress

and may contribute pathogenesis of the some neuropsychiatric disorders. Enhanced NO may cause the lipid peroxidation; may lead to protein damage; may lead to injury of the DNA. Therefore increased NO can contribute to the pathogenesis of ASD. Most of the studies suggest that there is a competition between NOS and arginase in some psychiatric disorders. It may be suggested that our finding of increased NO levels was supported by low arginase activity and the pathway of arginine and NO may be involved in pathogenesis of the ASD. There is a paucity of studies evaluating the role of U-II in psychiatric disorders. The fact that we could not find any significant differences in U-II between the patients with ASD and the HCs may result from relative small sample size of our study.

Keywords: autism spectrum disorder, urotensin-II, nitric oxide, arginase

Bulletin of Clinical Psychopharmacology 2016;26(Suppl. 1):S116-S17

[Abstract:0273][Psychopharmacology]

Discontinuation of depot piportil: a service evaluation

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OBJECTIVE: The aim of the study was to evaluate discontinuation of depot Pipothiazine Palmitate (Piportil) on patients. Objectives were whether switching to alternative antipsychotics was carried out according to the Trust guidelines and what were the cost implications on the Trust after switching to alternative treatment.

BACKGROUND: In October 2014, Sanofi pharmaceuticals informed the NHS (UK) that due to a global shortage of the pharmaceutical ingredient Pipothiazine Palmitate, it was unable to manufacture further supplies of Piportil Depot injection. This depot would no longer be available from March 2015. Consequently, the Pharmacy department at Bradford District Care Foundation NHS Trust issued guidance on switching patients to alternative antipsychotics.

METHODOLOGY: We first identified all the patients taking Piportil depot in Bradford. We then collected data from patients records regarding their basic demography, consultation to review their medication history, prescribers' contact with the Pharmacy department, alternative antipsychotic that has been switched to, dosage and cost analysis, and whether a medication review had taken place within 6 months of the switching to a different antipsychotic. The data was collected in July and August 2015 from Trust's electronic data base. Data was entered in Excel sheet and analyzed.

RESULTS: There were 48 patients on Piportil depot. Of these 33 were male and 15 females. About 50% belonged to Pakistani ethnicity due to major ethnic minority presence in Bradford and about one-third was white British.

About 71% (n=34) were on Piportil for more than 24 months prior to the switching. Only 9% (n=3) of them has had an admission within that period. Prior to switching, the review of drug history was carried out in 50% (n=24) of cases and the Pharmacist's advice was sought only in 25% (n=12). Five patients were excluded for valid reasons.

Out of remaining 43, Piportil depot was switched to a first-generation antipsychotic depot in 28 (65%), to a second-generation antipsychotic depot in 9 (21%) and to an oral antipsychotic in 6 (14%) patients.

20% & 30% higher equivalent doses were needed when switching to second generation depot and oral antipsychotic respectively. Overall an additional £572 per week was spent on medication compared with Piportil costs.

The follow-up reviews within 6 months after switching were carried out in 80% of eligible cases.

CONCLUSION: Over 90% of patients on Depot Piportil for more than two years remained stable without requiring an admission. This shows that Piportil depot was an effective treatment. Due to short period between the notice and discontinuation of supplies, about 50% of patients were put on alternative treatments without the documentation of review of their drug history. Switching to other medications caused patients to receive higher equivalent doses. This could be due to clinician's anxiety about having any relapses during switch. Depot Piportil discontinuation caused 20% of patients being prescribed costly new second generation depot medications.

Keywords: pipothiazine palmitate, piportil, depot, discontinuation, antipsychotics

Bulletin of Clinical Psychopharmacology 2016;26(Suppl. 1):S117

[Abstract:0405][Psychosomatic medicine-Liaison psychiatry]

Investigation of perceived expressed emotion in adolescents with obesity

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OBJECTIVE: Obesity is a chronic disease which is need to be biologically examined, since it causes medical and psychological complications. There are several factors in the formation of obesity, such as genetic, hormonal and environmental factors. Among environmental factors, relationships of adolescents with their families and peers are significant. In adolescents, struggles to dissociate from parents, to be a different individual, and to impose this dissociation to their families are markedly observed. Due to intimacy with opposite sex, seeing the risks less, considering that they manage to do everything, and wishing for autonomy, conflicts between adolescents and their families occur. In addition to such experiences, immobility which occurs due to expanding technological changes and their inclusion in daily life, triggers incorrect dietary habits. Obesity, which develops due to biological nature of individuals, is considered to be a significant problem in adolescence.

METHODS: In this study, sociodemographical characteristics and perceived expressed emotions of adolescents were examined in comparison with normal weight adolescents. All these characteristics were evaluated in terms of sexual differences in adolescents with obesity. The study group of our study included 100 adolescents; of which 50 adolescents had obesity without any clinical intellectual disability, any history of head trauma which could cause loss of consciousness, any chronic disease and neurological problems; and the other 50 adolescents had same characteristics except being in normal weight. Data of the study were obtained by using sociodemographical data form and short version of expressed emotion.

RESULTS: It was seen that adolescents with obesity had high points in the field of perceived expressed emotion and in the sub-fields of this measure: lack of emotional support, interventionism and irritability. In this respect, there was a significant difference when adolescents with obesity compared with normal weight adolescents ($p < 0.001$). When adolescents with obesity and normal weight adolescents were evaluated according to gender differences, there was not a significant difference in perceived expressed emotion ($p = 0.259$). This suggested that high scores of expressed emotion was associated with obesity independent of gender.

CONCLUSIONS: Perceived expressed emotion should be evaluated in adolescents, since environmental factors is significant in development of obesity in adolescents. Unfavorable relationships, which is formed between an adolescent and his/ her parents or close friends, could facilitate development of obesity by affecting the adolescent. In adolescents, while expressed emotion and self-esteem were negatively affected by the presence of obesity, the risk of psychopathology occurrence increased. Considering the importance of perceived expressed emotion, it has been considered to be a guide for prevention and treatment of diseases. This study is the first in its field to examine perceived expressed emotion in adolescents with obesity. Further studies are needed in this field, to understand the effects of perceived expressed emotion better to the present pathologies in children and adolescents with obesity.

Keywords: perceived expressed emotion, adolescence, obesity

Bulletin of Clinical Psychopharmacology 2016;26(Suppl. 1):S118

[Abstract:0451][Schizophrenia and other psychotic disorders]

Social behavior and functioning in schizophrenia and healthy controls: a voxel based morphometry study

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OBJECTIVE: Schizophrenia is a severe mental health disorder with a severe disruption in thought, perception, affection and behavior of the affected individuals. Attaining an appropriate level of social behavior in terms of approach and avoidance is crucial for successful social functioning. Social functioning in schizophrenia is impaired more than any other psychiatric disorder, and thus it may be plausible to expect impaired approach and avoidance tendencies which may explain some variance of symptoms and social functioning in

schizophrenia. In addition, many previous studies have shown structural and metabolic abnormalities in grey and white matter areas in schizophrenia. However none of them examined the relationship between social motives and brain regions that are affected in schizophrenia.

METHODS: Twenty-three patients with schizophrenia and 23 matched healthy individuals were included in the study. Socio-demographics, Social Functioning Scale, Edinburgh Handedness Inventory, MOS Social Support Scale, PANSS Positive and Negative Syndrome Scale, Social Avoidance subscale of Liebowitz Social Phobia Scale, BIS/BAS Scale, Paranoia Scale, Reading the Mind in the Eyes Test, and structural magnetic resonance (MRI) were applied to the participants. MRI images were analyzed with Voxel-Based Morphometry (VBM) techniques; between group differences for social and behavioral scales were analyzed with ANOVA; the relationship between the gray matter volume found as significantly different between groups as a result of VBM analysis and behavioral measurements for each group was calculated by applying Pearson's correlation analysis.

RESULTS: As a result, significant differences were observed in behavioral measures between schizophrenia and healthy controls. Besides, significant gray matter reductions were found in the right parahippocampus, hippocampus, fusiform, middle temporal and left hippocampus, superior temporal, postcentral and supramarginal regions. We also found that social avoidance is positively correlated with the left post-central gyrus volume, whereas interpersonal interaction is negatively correlated with the same area. Negative correlations between behavioral inhibition system/ behavioral activation system and the right fusiform gyrus volume, the right middle temporal pole volume, the right parahippocampal gyrus volume implies that these regions are relevant with approach and avoidance behaviors.

CONCLUSION: To the best of our knowledge this is the first study that shows a relationship between affected brain regions and social behavior in schizophrenia. The findings of this study may improve our insights and extend our understanding of schizophrenia from a different perspective. It should also be noted that the effects of current treatment approaches on approach/ avoidance tendencies in schizophrenia may require attention with the support of our study.

Keywords: schizophrenia, social motives, VBM, social functioning

Bulletin of Clinical Psychopharmacology 2016;26(Suppl. 1):S118-S9

[Abstract:0457][Stress and related conditions]

Long term effects of sexual trauma history in the female psychiatric inpatients

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OBJECTIVE: Early life time especially childhood sexual abuse is traumatic experiences and also significantly associated with adult psychopathology. Sexual abuses have been reported by 15-22% of adult women in the general population. Early life time histories of physical or sexual abuse are associated with a higher risk of psychiatric disorders such as depressive episodes, mania, and psychosis. However, these problems are predicted and evaluated for near term effects. It is generally neglecting the fact that these traumatic exposures substantially cause a major psychiatric disorder in the long-term, even requiring a psychiatric hospitalization many times. We present as a case series of 13 female patients with sexual abuse or rape stories who were treated with serious psychiatric disorders, emerging after years.

METHOD: We conducted a retrospective study in which 13 hospitalized women that evaluated histories by clinical interviews while hospitalization.

RESULTS: A total of 13 patients hospitalized of which followed up by retrospective interviews were evaluated. Most of mothers were 25-35 years old and mean age of them was 30.5 years. 7 of them had a history of family psychiatric disorders. 4 of them were married (30.7%), 4 of them were single (30.7%), 3 of them were separated (23.1%) and 2 of them were divorced (15.4%). Furthermore, in the course of clinical interview, major depression were diagnosed as the most frequent disorder among 13 (4 cases, 30.7%) patients of the case group and 3 of them had psychotic disorders (23.1%) included schizophrenia (1 case) and schizoaffective disorder (2 cases), 3 of them had bipolar disorder (23.1%), 2 of them had posttraumatic stress disorder (15.4%), 1 of them had dissociative disorder (7.7%). 11 of the patients had histories of suicide attempts, mean suicide attempts rate was 1.92 and 7 of them had several suicide attempts. The period of psychiatric disorder was changed in among 1-34 years and mean period of disorder was 10.69 years. The onset of the psychiatric disease started average 7.6 years later.

CONCLUSION: It is well known that traumas, especially that take place in the early years of human life may cause a major psychiatric disorder even after years. Rape and abuse victims have the risk to have many psychiatric diseases. In our cases, the onset of the psychiatric diseases are years after abuse or rape histories. None of them have a psychiatric evaluation nor any interventions after their traumatic

experiences and also any forensic process. To decide the level of the penalty intended for abuse and rape perpetrators according to Turkish Penal Code, victims are being sent to forensic psychiatry units in order to be evaluated for the psychiatric outcomes. The evaluations mentioned are being held almost during the 6 months after the incident and the last psychiatric conclusion is made maximum 1 year after. We recommend that patients who have many psychiatric hospitalizations and no complete recovery despite the good compliance of psychotropic treatment, should to be evaluated for the traumatic life experiences, especially abuse or rape.

Keywords: sexual trauma, abuse, rape, long term effects, women, hospitalization

Bulletin of Clinical Psychopharmacology 2016;26(Suppl. 1):S119-S20

[Abstract:0492][Eating disorders]

Did DSM-5 criteria may change the prevalence of eating disorders? A multicenter study

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OBJECTIVE: In the samples of Turkish population, the prevalence of eating disorders was found 1.52%-2.33% according to DSM-IV-TR. The diagnostic criteria have changed with DSM-5. In this study, we examined the effect of changes in the DSM diagnostic criteria regarding the prevalence of eating disorders.

METHODS: The study was conducted in two stages. In the first stage, the Eating Attitudes Test (EAT) was administered to a total of 4078 university students in eight different centers with random sampling method. In the second stage, Eating disorders group was determined by a clinical interviews which was structured based on the DSM-5, with the participants who scored 30 and above according to EAT. The age and gender matched control group was created by the participants who scored below 30 point according to the EAT.

RESULTS: Four thousand and seventy-eight volunteer students participated in the study. As a result of the screening with EAT, EAT scores were found 30 and above in 7.62% (n=311) of the sample. After the clinical interview with the participants who scored 30 and above in the EAT, the prevalence of ED was determined as 2.23% (69 female, 22 male). ED subtype rates were as follows: Anorexia Nervosa (AN) 0.29%, Bulimia Nervosa (BN) 0.26%, Binge Eating Disorder 0.63%, Avoidant/ Restricted Food Intake Disorder 0.53%, Other Specified Feeding or Eating Disorder 0.34%, Unspecified Feeding or Eating Disorder 0.12%, and pica 0.02%. ED scores of the women (3.1%) were higher than men (1.2%) (p <0.05). The most significant difference between subtypes was found in BN (in women 0.43%, in men 0.05%). Comorbidity was detected in the 49% of ED group. Major depression was the most frequent comorbidity.

CONCLUSION: While the prevalence of ED was found 1.52%-2.33% in the studies that was conducted with the DSM-IV-TR diagnostic criteria in Turkey, the prevalence of DSM-5 ED was detected as 2.23% in our study. While the rate of AN were between 0-0.034% in the previous studies, this rate was found higher in our study (0.29%). However, the rates of BN were detected lower in our study (0.63-0.79%

vs. 0.26%). A study conducted with DSM-5 in the United States reported that the rate of BN have increased approximately 30%, while the incidence and prevalence of AN was doubled. According to our results; when the DSM-5 diagnostic criteria were taken into account, no difference was observed in the prevalence of total ED when compared with the DSM-IV-TR. However, the increase in the prevalence of AN and decrease in the prevalence of BN was confirmed. It is known that cultural differences are an important factor in the prevalence of BN.
Keywords: eating disorders, DSM-5, prevalence

Bulletin of Clinical Psychopharmacology 2016;26(Suppl. 1):S120-S1

[Abstract:0569][Mood disorders]

May nesfatin-1 and oxytocin be a trait marker in major depressive disorder with suicidal ideation?

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OBJECTIVE: The best known effects of nesfatin-1 are on appetite and metabolic regulation. Nesfatin-1 reduces food intake through an oxytocin dependent mechanism. Moreover, several research suggest that nesfatin-1 and oxytocin play a role in stress responses. These molecules may be involved in the pathophysiology of mood disorders and suicidal behavior. As major depressive disorder (MDD) is a common psychiatric disorder with a significant suicide risk, the individuation of potential biomarkers of suicidality, may enable recognition of risk subjects. If nesfatin-1 and oxytocin are biomarkers for suicidal ideation in depression they could be useful for suicide prevention in monitoring patients. Therefore, in this study, we assessed the association between nesfatin-1 and oxytocin levels and suicidal ideation in patients with MDD.

METHODS: We compared nesfatin-1 and oxytocin levels with suicidal ideation (n=32), without suicidal ideation (n=31) in depressed patients and healthy controls (n=32). Subjects were diagnosed using the Structured Clinical Interview for Diagnostic and Statistical Manual of Mental Disorders, 4th edition, Clinical Version (SCID-I). Suicidal ideation was assessed using the Suicide Probability Scale, Scale for Suicide Ideation, and depressive symptoms were evaluated with the Hamilton Depression Rating Scale. Blood samples were collected to measure serum nesfatin-1 and oxytocin levels by using ELISA method. The level of statistical significance was set with a $p < 0.05$.

RESULTS: Serum oxytocin levels were significantly lower in MDD with suicidal ideation than in healthy volunteers ($p < 0.001$). Serum oxytocin levels were significantly lower in MDD without suicidal ideation than in healthy controls ($p < 0.001$). There were no statistically significant differences in the oxytocin levels between patient groups ($p = 0.863$). The study revealed that serum nesfatin-1 levels were significantly lower in MDD with suicidal ideation than the healthy volunteers ($p < 0.001$). Serum nesfatin-1 levels were significantly lower in MDD without suicidal ideation than the healthy controls ($p = 0.043$). There was a negative correlation between the scores of suicidal ideation and nesfatin-1 levels.

CONCLUSION: Oxytocin levels showed no significant difference between the patient groups. Serum oxytocin values may not be a biological suicide marker to predict suicidal ideation. However, the findings of this study indicated that the presence of MDD with suicidal ideation is associated with differences in nesfatin-1 levels when compared to those without suicidal ideation and healthy volunteers. Low nesfatin-1 levels were associated with suicidal ideation. In the future, nesfatin-1 may be used as a biologic marker in MDD with suicidal ideation and provide a clinical benefit in predicting suicide risk. Further prospective studies are required to elucidate this potential association.

Keywords: major depressive disorder, suicidal ideation, nesfatin-1, Oxytocin

Bulletin of Clinical Psychopharmacology 2016;26(Suppl. 1):S121

[Abstract:0722][Schizophrenia and other psychotic disorders]

Supersensitivity psychosis syndrome (SPS) re-visited: results of systematic analysis and suggested Bakirkoy diagnostic criteria

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OBJECTIVE: Antipsychotic Drugs (APDs) have been used treatment of psychotic disorders since their development in the 1950s. There is evidence that APD treatment, in particular first-generation generation and potent D2-receptor blocker APDs may result in the development of Supersensitivity Psychosis Syndrome (SPS). In daily practice, SPS is generally interpreted as an exacerbation of psychotic disorders and is being treated with increasing dose of APD. But this is often does not work. There are cases, which have been reported psychotic relapse after discontinuation of APDs. This situation supports independently of the underlying disease diagnosis that is an iatrogenic syndrome. Neurobiology of SPS involves up-regulation of post-synaptic dopaminergic receptors, a progressive hypersensitivity to dopamine, and postsynaptic neuroadaptive changes in gene expression. Dopamine supersensitivity consists of positive symptoms of schizophrenia, e.g., delusions, hallucinations, thought disorder, and presence of abnormal involuntary movements.

In general, most first-episode patients require relatively lower doses of APDs which mostly require higher doses given multiple relapses. However it remains unclear whether this is due to the progress of illness and/ or due to the development of SPS. It has been reported that approximately 50% of cases of treatment resistant schizophrenia are due to dopamine hypersensitivity psychosis. Life events also contribute to the development of SPS. Therapeutic approaches to SPS include; (1) switch to an antipsychotic drug with different mechanism of action (2) prefer lower affinity for the D2 receptor APD, (3) consider to adding 2-adrenoceptor receptor blocking drugs to the treatment, or (4) treatment with antiepileptic drugs (lamotrigine, topiramate, valproic acid). It is also recommended to maintain the lowest possible dose of APD, which is taught to minimize the development of PSP. Therefore, we are presenting the systematic analysis of the data from our hospital regarding diagnostic criteria of PSP.

METHOD: We conducted a systematic (all) retrospective chart review of all the patients who were treated in the female inpatient unit during a year (between 01 February 2015 and 30 January 2016). From these patients who had SPS were identified which ADP treatment and increasing dose in these cases have increased their psychotic symptoms.

RESULTS: Five of these patients were diagnosed with schizophrenia (50%), three of them were diagnosed with schizoaffective disorder (30%), two of them were diagnosed with bipolar disorder (20%) also mean disease duration of 14.5 years. These patients were presented with auditory and visual hallucinations, delusions of reference, delusions of persecution, mystical delusion and jealousy, formal thought disorder, and some of them had mood changes. Antipsychotics causing hypersensitivity psychosis in patients were:

- Aripiprazole (3 cases)
- Risperidone (4 cases)
- Haloperidol (2 cases)
- Paliperidone (1 cases)

CONCLUSION: In this article, we present ten case about neuroleptic-induced supersensitivity psychosis. In our patient the worsening of psychotic symptoms after antipsychotic therapy. This effect can be associated with level of striatal dopamine D2 receptor blockade. The loss of efficacy of antipsychotic has seen with synaptic modifications. Long-term antipsychotic treatment increases the number of D2 receptor and affinity. This also leads to exacerbation of psychotic symptoms. In order to avoid it, we recommend to use the lowest possible dose of antipsychotic medication or long-acting depot injections.

Keywords: antipsychotic drug, dopamine, supersensitivity psychosis syndrome

Bulletin of Clinical Psychopharmacology 2016;26(Suppl. 1):S122

[Abstract:0764][Psychopharmacology]**Comparison of serum level of sodium valproate between acute manic bipolar disorder, substance use disorder and substance induced psychosis**

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OBJECTIVE: Sodium valproate (VPA) is used primarily in the treatment of epilepsy and seizures, but is also used in migraine, bipolar disorder, and substance use disorder. We examined probable difference of valproate pharmacokinetics in acute manic bipolar patients in comparison with substance use disorder and substance induced psychosis.

METHODS: A total of seventy-one patients in the groups of substance use disorder (n=13, mean age=25.9, mean duration of disease 6,46 year, VPA level±SD=59.23±17.4), and substance-induced psychosis (n=20, mean age=26.2, mean duration of disease=3.45, mean VPA level±SD=63.1±14.8) were evaluated separately in comparison with acute manic bipolar disorder (n=38, mean age=34.4, mean duration of disease=8.28, mean VPA level±SD=61.35±12.04) were included in the study. All patients were male, total body weight of 50-80 kg and 18-65 years old received constant 1000 mg/day dose of VPA for at least 5 days. Sociodemographic data was obtained. Serum levels of valproate were measured.

RESULTS: No significant effects were found for serum level of sodium valproate between acute manic bipolar disorder, substance use disorder, and substance-induced psychosis by ANOVA.

CONCLUSION: Patients were medicated with higher rates of antipsychotic medications; however, antipsychotic medications might have influenced the entire results. Mean age differs among groups of substance use disorder and bipolar disorder. Substance use may affect hepatic metabolism. Different pattern of results might have emerged though not assessed variables. Finally, a difference would have been observed if the study had been conducted in a larger sample of patients with similar age range.

Keywords: bipolar manic disorder, substance use disorder, substance induced psychosis, sodium valproate

Bulletin of Clinical Psychopharmacology 2016;26(Suppl. 1):S123