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**Research Abstracts**

## ADDICTION

[Abstract:0162] *Addiction*

### Psychometric properties of the internet addiction criteria index among university students

Ercan Dalbudak<sup>1</sup>, Cuneyt Evren<sup>2</sup>, Secil Aldemir<sup>1</sup>, Bilge Evren<sup>3</sup>

<sup>1</sup>Department of Psychiatry, Turgut Ozal University, Faculty of Medicine, Ankara-Turkey

<sup>2</sup>Bakirkoy Training and Research Hospital for Psychiatry, Neurology and Neurosurgery, Alcohol and Drug Research, Treatment and Training Center (AMATEM), Istanbul-Turkey

<sup>3</sup>Department of Psychiatry, Baltalimani State Hospital for Musculoskeletal Disorders, Istanbul-Turkey

e-mail address: edalbudak@hotmail.com

**Objective:** The aim of the present study was to evaluate the psychometric properties of the Internet Addiction Criteria Index (IACI), developed from the Fifth Edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) Addiction criteria to screen individuals for excessive or problematic internet use among Turkish university students.

**Methods:** A cross-sectional online self-report survey was conducted at Turgut Ozal University in Ankara. The questionnaire included sections about demographic information, the Addiction Profile Index Internet Addiction Form Screening Version (BAPINT-SV), and IACI. The analyses were conducted with 88 participants. A series of factorial structure, convergent validity and internal consistency reliability analyses were conducted.

**Results:** The adequacy of sample size was verified using the Bartlett's test of sphericity and the Kaiser-Meyer-Olkin (KMO) measurement of sampling adequacy. Bartlett's test of sphericity was significant (Chi-Square=447.368, df=55,  $p < 0.001$ ) for the IACI, and the KMO measure of sampling adequacy was acceptable at 0.882. Two components on the IACI reached the criterion of an Eigenvalue greater than one (5.43 and 1.18) and the variance accounted for by these components was 49.32% and 10.74%, respectively. The unidimensionality of the scale was assessed subsequently with confirmatory factor analysis (CFA). Estimation of the model produced a good fit ( $\chi^2/df=45.179/40=1.13$ , root mean square error of approximation RMSEA=0.039, goodness of fit index GFI=0.918, adjusted GFI=0.865, parsimony GFI=0.556, normed fit index NFI=0.904, comparative fit index CFI=0.988, incremental fit index IFI=0.988). All item-component loadings were in the "good" to "excellent" range. Thus, results from the PCA and the CFA suggest that the IACI assesses a one-dimensional construct. The Pearson product-moment correlation between the IACI and BAPINT-SV scores was moderate ( $r=0.62$ ,  $p < 0.001$ ), whereas internal consistency for the IACI (coefficient  $\alpha=0.892$ ), examined by Cronbach's alpha, was high.

**Conclusion:** These preliminary findings support the IACI as a reliable and valid Internet addiction-screening instrument that measures a one-dimensional construct in Turkish university students. Further research is warranted with a higher number of university students, with clinical populations and with high-risk populations such as those in Internet cafes.

**Keywords:** internet addiction criteria index, online survey, university students

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[Abstract:0165] *Addiction*

### Psychometric properties of the CAGE questionnaire assessment for problematic internet use among university students

Ercan Dalbudak<sup>1</sup>, Cuneyt Evren<sup>2</sup>, Secil Aldemir<sup>1</sup>, Bilge Evren<sup>3</sup>

<sup>1</sup>Department of Psychiatry, Turgut Ozal University, Faculty of Medicine, Ankara-Turkey

<sup>2</sup>Treatment and Training Center (AMATEM), Bakirkoy Training and Research Hospital for Psychiatry, Neurology and Neurosurgery, Alcohol and Drug Research, Istanbul-Turkey

<sup>3</sup>Department of Psychiatry, Baltalimani State Hospital for Musculoskeletal Disorders, Istanbul-Turkey

e-mail address: edalbudak@hotmail.com

**Objective:** The aim of the present study was to evaluate the psychometric properties of the CAGE-Internet questionnaire, adapted from CAGE (a questionnaire for alcohol abuse), to screen individuals for problematic Internet use, among Turkish university students.

**Methods:** A cross-sectional online self-report survey was conducted at Turgut Ozal University in Ankara. The questionnaire included sections about demographic information, the Addiction Profile Index Internet Addiction Form Screening Version (BAPINT-SV) and CAGE-Internet questionnaire. The CAGE is a 4- item, relatively non-confrontational questionnaire for detection of alcoholism. Similarly, CAGE-

Internet questionnaire consists of 4 items. It takes less than 1 minute to administer, is easy to learn, remember and replicate. The analyses were conducted with 88 participants. A series of factorial structure, convergent validity and internal consistency reliability analyses were conducted.

**Results:** Adequacy of the sample size was verified using Bartlett's test of sphericity and the Kaiser-Meyer-Olkin (KMO) measurement of sampling adequacy. Bartlett's test of sphericity was significant (Chi-Square=85.536, df=6,  $p<0.001$ ) for the CAGE-Internet questionnaire, and the KMO measure of sampling adequacy was acceptable at 0.597. Only one component on the CAGE-Internet questionnaire reached the criterion of an Eigenvalue greater than one (2.10), and the variance accounted for by this component was 52.53%. The unidimensionality of the scale then was assessed with confirmatory factor analysis (CFA). Estimation of the model produced a good fit ( $\chi^2/df=3.34/2=1.67$ ; root mean square error of approximation RMSEA=0.088, goodness of fit index GFI=0.982, adjusted GFI=0.910, parsimony GFI=0.196, normed fit index NFI=0.962, comparative fit index CFI=0.984, incremental fit index IFI=0.984). All item-component loadings were in the "good" to "excellent" range. Thus, results from the PCA and the CFA suggest that the CAGE-Internet questionnaire assesses a one-dimensional construct. The Pearson product-moment correlation between the CAGE-Internet questionnaire and BAPINT-SV scores was moderate ( $r=0.62$ ,  $p<0.001$ ). Internal consistency for the CAGE-Internet questionnaire (coefficient  $\alpha=0.679$ ) examined by Cronbach's alpha was also moderate.

**Conclusion:** These preliminary findings support the CAGE-Internet questionnaire as a reliable and valid problematic Internet use-screening instrument that measures a one-dimensional construct in Turkish university students. Further research is warranted with a higher number of university students, with clinical populations and with high-risk populations such as those in Internet cafes.

**Keywords:** CAGE internet questionnaire, online study, university students

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#### [Abstract:0240] *Addiction*

### Distribution of healthcare for patients with alcohol use disorders across different healthcare settings – a cross sectional observational study

Oguz Kayihan Karamustafalioglu<sup>1</sup>, Onur Tankaya<sup>2</sup>, Gamze Erdogan Canca<sup>2</sup>, Fatma Deniz Azgi<sup>2</sup>

<sup>1</sup>Department of Psychiatry, Uskudar University, Faculty of Medicine, Istanbul-Turkey

<sup>2</sup>Lundbeck Ilac, Istanbul-Turkey

e-mail address: oguzkaramustafa@gmail.com

**Objective:** The aim of this study is to investigate the distribution of healthcare provided for patients with alcohol use disorders (AUD) among different treatment settings and to provide insight in the unmet needs in the treatment of AUDs.

**Methods:** A total of 462 clinicians, including psychiatrists, family physicians (FPs), general practitioners (GPs), and internists from six geographical regions of Turkey were interviewed face-to-face by using a structured interview that was specifically produced for the study in order to provide information about clinicians' daily practices for patients with AUD. Data were presented in frequencies and student's t-test was used for statistical significance with an alpha value set to 0.05.

**Results:** Sixty-two internists, 150 GPs, 50 FPs and 200 psychiatrists participated in the study. Half of the psychiatrists were working in a specific alcohol treatment unit (outpatient/inpatient or both). 34 psychiatrists were working in AMATEMs (group 1), 34 were working in a specific treatment unit with both out-/inpatient facilities (group 2) and 32 were working in an outpatient-specific treatment unit (group 3). In terms of number of patients with AUD treated per month, group 1 reported an average of 151 (out of 667 patients per month), group 2 reported 48 (out of 662) and group 3 reported 37 (out of 728) whereas internists reported an average of 3 and GPs reported 1 patient. General psychiatrists reported an average of 15 patients with AUD per month out of 636 patients. 47% of the patients seeking treatment were reported to be referred by another facility and 87% of those referred for treatment were reported to be referred by GPs followed by general psychiatrists. 77% of the patients were reported to be referred by general psychiatrists. 29% of the patients referred for treatment were reported to be hospitalized whereas 23% were reported to reject any treatment. 53% of the patients with AUD were reported to seek treatment of their own will. Group 2 reported a higher proportion of follow-up patients ( $p<0.05$ ) compared to group 1 (73% vs. 62%, respectively). Group 1 reported the highest number of newly diagnosed patients (38% of all treated patients) seen in daily practice. In terms of treatment modality 71% of all patients were reported to be treated at an outpatient unit whereas 15% were reported to be hospitalized. 14% of the patients with AUD were reported to deny any treatment.

**Conclusion:** The findings of the current study suggest that patients with AUD are treated mainly by AMATEMs and specific treatment units and GPs and general psychiatrists are the primary sources for referral of these patients to specific units. It may also be concluded that

although proportions of follow-up patients with AUD are generally high, specific treatment units with both in- and outpatient facilities are superior in terms of patient follow-up.

**Keywords:** alcohol use disorders, healthcare, treatment

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**[Abstract:0246] Addiction**

## Early Application and efficacy of gliatilin in heroin addiction

[Nazira Islamovna Khodjaeva, Shohrukh Sultanov Habibullaevich](#)

Department of Psychiatry and Narcology, Tashkent Medical Academy, Tashkent City-The Republic of Uzbekistan

e-mail address: nazira\_48@bk.ru

**Objective:** Clinical symptoms of organic brain damage in opium addiction vary from mild to severe disturbances. Pharmacological properties of gliatilin suggest that it may be useful to administer the drug to opiate-dependent patients the stage of remission. The aim of the work was to evaluate the efficacy of gliatilin in the treatment of patients with opiate dependence in the early stages of remission, at 10-14 days cessation of heroin use.

**Methods:** The study included 60 patients diagnosed according to ICD-10 with "withdrawal from opiate drugs." Patients of the first group received gliatilin with standard therapy, patients of the second group only standard therapy (hypnotics). The total duration of the study in both comparison groups was 2 months. At the beginning and end of the study, the intensity and structure of pathological inclinations was evaluated using the glossary NV Cherednychenko and VB Altshuller. Prior to treatment, almost all patients had symptoms of cognitive deficits of varying severity. Assessment of the dynamics of the exponents and quality concentration was carried out using the Schulte table. When applying gliatilin, in the first group of heroin addicts after 7 days of treatment there was a decrease run-time jobs.

**Results:** When analyzing the dynamics of quantitative indicators of attention on the Kraepelin table, most significant improvement was noted in patients taking gliatilin. By the end of therapy, the number of memorized words reached  $10.09 \pm 4.2$ . Improvement was observed also in the 2<sup>nd</sup> group of patients, but it was less pronounced: Dynamics of qualitative indicators of attention was also more pronounced with the application of gliatilin. In group 1, at the end of therapy, the number of errors decreased by 58% in group 2 by 32%. Statistically significant differences in terms of short-term memory between the groups of patients were already seen after 21 days of therapy. In assessing the dynamics of long-term memory, the two groups also experienced improvement in reproducing words. The most pronounced improvement was noted in group 1: at the end of therapy, an increase in number of reproduced words by 34% compared to the background. In group 2, an increase in the number of words compared to the background was much less pronounced. In the nature of the reduction of craving for the drug (CD) significant differences were found between the two groups. As a result in the first group, the expression of all components of the autonomic component CD was significantly lower than in the second group.

**Conclusion:** Using gliatilin leads to a significant improvement in cognitive functioning in patients with restoration of quantitative and qualitative indicators of attention, short-term and long-term memory. Introduction gliatilin the complex pharmacotherapy was not accompanied by adverse events, which makes gliatilin effective and safe in the initial therapeutic remission with heroin addiction.

**Keywords:** addiction, gliatilin, treatment

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**[Abstract:0451] Addiction****Relationship between internet addiction, psychopathology and self-esteem in university student**Ibrahim Taymur<sup>1</sup>, Ersin Budak<sup>2</sup>, Rustem Askin<sup>1</sup>, Buket Belkiz Gungor<sup>1</sup>, Almila Ikra Akgul<sup>1</sup>, Zeynep Anil Sahin<sup>1</sup><sup>1</sup>Department of Psychiatry, Sevket Yilmaz Training and Research Hospital, Bursa-Turkey<sup>2</sup>Department of Psychiatry, Sevket Yilmaz Training and Research Hospital, Bursa-Turkey

e-mail address: dritay@yahoo.com

**Objective:** The aim of our study was to examine the relationship between internet addiction psychopathology and self-esteem in university students. Internet addiction is associated with a person's loss of control over the use of the internet 1. Internet addiction scores were higher in individuals with high scores for many of the psychopathological features, and internet addicts were evaluated accompanied by several psychiatric disorders 2. At the same time, many factors associated with self-esteem and self-esteem have been shown to be affected by internet addiction 3.

**Methods:** The study involved 185 volunteer university students. Participants Internet Addiction Scale (IAS), The Symptom Check List (SCL-90), Rosenberg Self-Esteem Inventory all subscales (RSE) are evaluated by all subscales.

**Results:** One hundred and twelve participants (60.54%) were female, 73 (39.46%) participants male and all students' mean age  $19.36 \pm 1.59$  years. Internet addiction was assessed by participants completing the scale of IAS resulting in three groups: participants do not have addiction, mild and moderate/high. 99 participants (53.26%) had no dependency, 59 (32.06%) mild, 27 (14.68%) had moderate / high dependency scores. As a result of ANOVA analysis of Group IA: SCL-90 subscales ( $p < 0.01$ ); subscales of the RSE (except depressive mood, ability to participate in discussions, parent interest subscales) found an average differentiation ( $p < 0.05$ ). According to the results of the regression analysis IA subscale scores of the SCL-90 and RSEI (except relying on other people, participate in discussion, parental interest subscales) were found to predict separately. According to multiple regression analysis, the RSEI of all subscales (Self-esteem, Continuity of the self-concept, Relying on People, Criticism sensitivity, Depressive mood, Dreaming, Psychosomatic symptoms, Feel threatened in interpersonal relationships, Participate in discussion degree, interest of parents, Relationship with father, Psychic isolation) scores were evaluated. Hierarchical regression analysis showed that in the first model, the relationship of general psychopathology and relationship with father respectively explained 22.5% of IA in the score; in the second model of IA scores for obsessions and relationship with father respectively, 19.5% of which were found to explain.

**Conclusion:** The investigation of the etiology and treatment of psychopathological features of IA, assessing the impact of the factors "self-esteem" and "associated with self-esteem" can lead to beneficial results. Limitations of this study: the result can only be generalized to college students and is limited by the number of people included.

**Keywords:** internet addiction, psychopathology, self-esteem

**Bulletin of Clinical Psychopharmacology 2015;25(Suppl. 1):S75**

**[Abstract:0463] Addiction****Depressive and anxiety symptoms and cigarette smoking among college girls**Funda Gumustas<sup>1</sup>, Emel Koyuncu Kutuk<sup>2</sup><sup>1</sup>Trabzon Kanuni Training and Research Hospital, Trabzon-Turkey<sup>2</sup>Adiyaman University Training and Research Hospital, Adiyaman-Turkey

e-mail address: fundagumustas@gmail.com

**Objective:** We aimed to examine the relationship between depressive and anxiety symptoms and current cigarette smoking among college girls. It was hypothesized that current tobacco use would function as a determinant of depression and anxiety among youths.

**Methods:** Eight hundred forty-eight female students of a university in the southeast of Turkey participated in this study (mean age  $20.81 \pm 1.47$ , min 18- max 25). Sociodemographic data were gathered with a questionnaire. Household income and highest parental education were used as measures of socioeconomic status. Depressive and anxiety symptoms scores of the participants were obtained with the Beck Depression and Anxiety Inventories (BDI and BAI).

**Results:** The prevalence of smoking among college girls was found 8.9% ( $n=75$ ). Girls who live apart from their family showed significantly higher smoking rates than girls living with their family ( $p=0.012$ ). No differences between smokers and nonsmokers were found in terms

of the number of siblings, family income and parental education ( $p>0.05$ ). Current cigarette users had significantly higher depressive and anxiety symptom scores on the BDI and BAI than nonsmoking girls ( $p=0.000$  and  $p=0.001$ ). Multivariate analyze showed that current cigarette smoking had significant effects on depressive and anxiety symptoms [ $F(1.839)=7.76$   $p=0.000$  partial  $\eta^2=0.018$ ], living with or without family did not affect the scores significantly [ $F(1.839)=0.37$   $p=0.53$  partial  $\eta^2=0.000$ ].

**Conclusion:** We found that cigarette smoking increased the levels of depressive and anxiety symptoms in this study. Research suggests that smoking among college students may be influenced by the presence of clinical depression or depressive symptomatology. A history of depression is associated with a greater likelihood of being a smoker among female, but not male, college students. However, there is also evidence that cigarette smoking might increase the risk of depression. Anxiety disorders may represent an important vector of vulnerability for cigarette use. Understanding the causal links between cigarette use and mental health disorders may help with the development of effective interventions for college aged youth.

**Keywords:** anxiety, cigarette smoking, depression

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### [Abstract:0647] *Addiction*

## Evaluation of decision making, executive functions and impulsivity in smoker and non-smoker pregnant women

Buket Belkiz Gungor<sup>1</sup>, Mahmut Gungor<sup>2</sup>, Ersin Budak<sup>1</sup>, Ibrahim Taymur<sup>1</sup>, Nabi Zorlu<sup>3</sup>, Hakan Demirci<sup>4</sup>, Almila Akgul<sup>1</sup>, Rustem Askin<sup>1</sup>

<sup>1</sup>Department of Psychiatry, Sevket Yilmaz Training and Research Hospital, Bursa-Turkey

<sup>2</sup>Department of Gynecology and Obstetrics, Sevket Yilmaz Training and Research Hospital, Bursa-Turkey

<sup>3</sup>Department of Psychiatry, Izmir Atatürk Training and Research Hospital, Izmir- Turkey

<sup>4</sup>Department of Family Medicine, Sevket Yilmaz Training and Research Hospital, Bursa-Turkey

e-mail address: buket.gungor@yahoo.com

**Objective:** It is encouraging that approximately 25-40% of pregnant women who smoked prior to pregnancy tend to quit smoking by the first visit. The purpose of this article is to evaluate decision-making, executive functions and impulsivity in pregnant women who cannot stop smoking and compare them with non-smokers. We expected diminished executive functions and decision-making and increased impulsivity in smokers relative to controls.

**Methods:** Twenty-four pregnant who continue to smoke and 15 pregnant who never smoked completed psychometric cognitive tests and psychiatric rating scales. Decision-making and impulsivity were evaluated respectively with Iowa Gambling Test and Barratt Impulsivity Scale. Executive functions included Stroop Test and Tower of London (ToL) Test. Physical addiction to nicotine was assessed with Fagerstrom Test in the smoker group. Exclusion criteria for all groups were prior diagnosis of psychiatric disorders, age less than 18 years.

**Results:** The Mann-Whitney U test is used to compare the groups. There were no differences between decision-making, impulsivity and Stroop scores. The pregnant women who had never smoked showed better performance on ToL.

**Conclusion:** The Tower of London is a task used in the assessment of executive functioning specifically to detect deficits in planning. Performance on the ToL has been shown to be impaired in dependency. We did not determine differences between decision making, impulsivity and Stroop performance in the groups. Our results of decision making, impulsivity and Stroop performance were not consistent with the literature. This can be related to the sample size. It has been stated that impulsivity is a structural risk factor for addiction and decision-making was affected in alcohol and substance addicts.

**Keywords:** smoking, executive function, decision-making

**Bulletin of Clinical Psychopharmacology 2015;25(Suppl. 1):S76**

**[Abstract:0677] Addiction****Sociodemographical and clinical features of treatment-seeking patients with gambling disorder**Ahmet Zihni Soyata<sup>1</sup>, Funda Suleyman<sup>2</sup>, Duygu Kinay<sup>2</sup>, Yasemin Sanal<sup>3</sup>, Lutfi Ilhan Yargic<sup>1</sup><sup>1</sup>Department of Psychiatry, Istanbul University, Istanbul Faculty of Medicine, Istanbul-Turkey<sup>2</sup>Department of Child and Adolescent Psychiatry, Istanbul University, Istanbul Faculty of Medicine, Istanbul-Turkey<sup>3</sup>Department of Psychology, Adana Science and Technology University, Adana-Turkey

e-mail address: mordraneth@gmail.com

**Objective:** Gambling disorder is the new term for “pathological gambling” in the DSM-5. It is an emerging mental health concern with easier access and increasing opportunities via internet lately. However, treatment seeking is low and data in the Turkish population are limited to a single study. Therefore, we assessed sociodemographic and clinical features in a treatment-seeking male population.

**Methods:** Charts of patients presenting with gambling disorder to the addiction unit of Istanbul University between 2000 and 2014 were reviewed. Manic or psychotic patients were excluded.

**Results:** Forty-one patients had presented primarily due to compulsive gambling. 70% (n=29) of the sample were married, 85% (n=35) were employed. Mean age at admission was 38.9±9.11 (min=18, max=61). Mean duration of compulsive gambling was 8 years. Sixty-three percent of the patients were self-motivated for therapy while others came due to family pressure. 58.5 % (n=24) of the sample had histories of unsuccessful attempts to quit gambling. The gambling types were as follows: 48% horse races, 48% football bet, 4.9% stock exchange, 34.1% card games, 24.4% dice games, 19.7% online bet sites. Frequency of gambling behaviors were as follows: 61% every day, 34% three times a week, 2.4% once a week, 2.4% less than four times in a month in the last month before admission. Mean follow-up duration in our unit was 3.9 months (min=one visit, max=48 months). 51% (n=21) had major depressive disorder at admission. 43.9% (n=18) had thoughts about death. 9.8% (n=4) reported a history of suicide attempt. 5% (n=2) were hospitalized at first admission due to active suicidal ideation. 27% of the sample had reported alcohol, 12% had cannabis, 7% had designer drugs, 2.4% had cocaine, and 2.4% had heroine abuse. During follow-up 28.9% of the sample stopped gambling and 10.5% had reduced gambling frequency. Patients that were hospitalized had higher follow-up duration. Self-motivated patients had higher depression rates, ideation of dying rates and higher follow-up duration.

**Conclusion:** The main finding is the high early drop-out rate of the patients with gambling disorder despite treatment seeking behavior. Another finding was the long interval of compulsive gambling without treatment seeking. Notably, none of the efforts to quit gambling was made during psychiatric follow-up. Stigma and lack of knowledge may explain these situations. Besides, depression and suicidality seems to be an important factor for treatment seeking. Gambling should be assessed and targeted specifically in depressive patients. To conclude, new treatment models are urgently needed to increase admission and attendance to treatment and studies to be conducted in the general population or risky populations are required.

**Keywords:** behavioral addictions, gambling disorder, psychiatric comorbidity

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**[Abstract:0705] Addiction****Determination of childhood and adult attention-deficit/hyperactivity disorder symptoms in male heroin dependent patients and clinical effects**Halil Ibrahim Ozturk<sup>1</sup>, Basak Demirel<sup>2</sup>, Tahsin Etili<sup>2</sup>, Hatice Yardim Ozayhan<sup>2</sup>, Ikbal Inanli<sup>2</sup>, Ibrahim Eren<sup>2</sup><sup>1</sup>Department of Psychiatry, Sirnak State Hospital, Sirnak-Turkey<sup>2</sup>Department of Psychiatry, Konya Training and Research Hospital, Konya-Turkey

e-mail address: drbasakdemirel@yahoo.com

**Objective:** Attention-deficit/hyperactivity disorder (ADHD) is a common, neurodevelopmental disorder that begins in childhood and often persists into adulthood. Several studies indicate a high prevalence of ADHD in subjects with substance use disorders (SUDs). In this study, we aimed to determine the prevalence and clinical effects of ADHD in male heroin dependent patients. Additionally we examined some clinical conditions that may affect addiction severity, such as aggression, impulsivity, childhood trauma, anxiety sensitivity, anxiety and depression.

**Method:** A total of 100 consecutive male heroin dependent patients who were treated at the Alcohol and Drug Research, Treatment and Training Center (AMATEM) of the Konya Training and Research Hospital in Konya between January 2014 and May 2014 were included in the study. We performed a total of three interviews with volunteer participants who were stabilized on sublingual buprenorphine-naloxone combination throughout the study. In these three interviews conducted at different times, a sociodemographic form, the Addiction Severity Index (ASI), the Wender-Utah Rating Scale (WURS), the Adult ADHD Self-Report Scale (ASRS), the Barrat Impulsiveness Scale, Version 11 (BIS-11), the Diagnostic Interview for ADHD in Adults, second edition (DIVA 2.0), the Childhood Trauma Questionnaire (CTQ), the Buss-Perry Aggression Questionnaire (BPAQ), the Anxiety Sensitivity Index-3 (ASI-3), the Medical Outcomes Study Short Form-36 (SF-36) Health Survey Questionnaire, the Hamilton Depression Rating Scale (HDRS) and the Hamilton Anxiety Rating Scale (HARS) were administered.

**Results:** We have determined 14% of participants had adult ADHD and 30% of participants had childhood ADHD retrospectively, using the DIVA 2.0. The childhood ADHD group had a statistically significant earlier age of onset of smoking, higher rates of imprisonment and higher rates of non-suicidal self-injury behavior. Childhood and adult ADHD groups had statistically significant higher total scores on CTQ, BIS-11, BPAQ, HARS and HDRS than non-ADHD groups. Also, childhood and adult ADHD groups had statistically significant higher scores in two ASI domains (legal status, psychiatric status) and overall lower scores were found in SF-36 domains. Finally, stepwise multiple linear regression analysis revealed that aggression is an important clinical condition affecting four of the six ASI domain scores (employment/support status, legal status, drug use and psychiatric status).

**Conclusion:** These findings indicate that ADHD is a common comorbidity in heroin-dependent patients and emphasize the importance of ADHD management. On the other hand, aggression is an important clinical condition affecting several ASI domains. Therefore, aggression must be addressed in SUD management particularly.

**Keywords:** attention deficit hyperactivity disorder, substance use disorders, addiction severity

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**[Abstract:0724] Addiction**

## Usage and effects of a different smokeless tobacco: Maraspowder

Ahmet Gul<sup>1</sup>, Hesna Gul<sup>2</sup>, Nurper Erberk Ozen<sup>3</sup>

<sup>1</sup>Department of Psychiatry, Necip Fazil City Hospital, Kahramanmaraş-Turkey

<sup>2</sup>Department of Child and Adolescent Psychiatry, Necip Fazil City Hospital, Kahramanmaraş-Turkey

<sup>3</sup>Department of Psychiatry, Ufuk University, Ankara-Turkey

e-mail address: mdahmetgul@gmail.com

**Objective:** A different kind of smokeless tobacco known as Maras powder has a widespread usage in the southern and southeastern regions of Turkey, particularly the cities of Kahramanmaraş, Gaziantep, and Adiyaman. It is made of a tobacco species called *Nicotiana rustica* L. and wood ash. Sun-dried leaves of the *Nicotiana rustica* plant are powdered and mixed with the ash in a proportion of 1:2 or 1:3. The nicotine content of *N. rustica* is 6–10 times higher than that of *N. tabacum* L., and by encasing it in the mandibular or labial groove of the mouth that has many capillary vessels, nicotine is quickly absorbed into the circulation. Oral tobacco use effects blood nicotine levels that are 15 times higher than those seen in cigarette smoking. The aim of this study was to characterize the usage of Maras powder among a nonclinical male group.

**Methods:** The study group consisted of 50 males aged between 26 and 48 years. A socio-demographic form and a questionnaire (these forms consisted of questions that were prepared by the authors to obtain information about the demographic characteristics of the participants and to identify some characteristics of usage), the Addiction Profile Index (BAPI-T) and the Structured Clinical Interview for Diagnostic and Statistical Manual of Mental Disorders–4<sup>th</sup> Edition were given to the participants. SPSS software was used for the descriptive statistical analysis. The values were presented as mean±SD and as percentages; p values <0.05 were considered to be statistically significant.

**Results:** The mean age of the participants was 36.0±8.07 years and the mean usage time of Maras powder was 8.6±2.71. All participants came from a low socioeconomic level. The underlying reasons for Maras Powder usage are “relaxing” (100%), “influence of friends” (26%), “usage convenience” (50%) and “quit smoking” (76%). API is reviewed as a valid and reliable questionnaire and is used as a severity scale including different components of dependency. It is composed of a checklist of variable substances and craving, motivation, and total score subscales. There was no other substance use determined except for cigarette. Seven subjects in the study group were using both Maras powder and smoking cigarette. There was no statistical significance between the duration of Maras powder usage and cigarette smoking. The total score of API was 4.7±1.56 and 50% of the participants were assessed in high risk group.



**Conclusion:** Recent studies have only assessed smoking but have not included other forms of tobacco use and have furthermore not documented the degree of nicotine dependence in smokeless forms. Because of the misconception that Maras powder is less detrimental to health than the other nicotine forms, and as a consequence of this study showing high dependency of this substance, we suggest that we have to focus on tobacco use rather than limiting our attention only to cigarette smoking.

**Keywords:** addiction, Maras powder, smokeless tobacco

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**[Abstract:0772] Addiction**

## Evaluation of the effect of schizotypy on cannabis use predictors

Fatma Eren<sup>1</sup>, Erdem Onder Sonmez<sup>1</sup>, Nesrin Dilbaz<sup>2</sup>

<sup>1</sup>Department of Psychiatry, Erzurum Regional Training and Research Hospital, Erzurum-Turkey

<sup>2</sup>Department of Psychiatry, NP Istanbul Neuropsychiatry Hospital, Istanbul-Turkey

e-mail address: ftn\_eflatun@hotmail.com

**Objective:** In this study it was aimed to compare male persons with cannabis abuse in terms of schizotypal features with a control group paired in age, sex and education level, and to find a subgroup in the group of cannabis use whose schizotypal points are higher than those having personality disorder as another factor increasing the tendency of cannabis use.

**Method:** A total of 251 consequent male patients aged between 18-65 years with cannabis use disorder were admitted to the outpatient clinics of Freedom under supervision of AMATEM of Ankara Numune Hospital for Education and Investigation. Individuals who had an education duration of at least 5 years were included in this study, as self-applied scales are used. The control group consisted of 120 healthy male volunteers matched for age, gender and education-level among physicians and other healthcare professionals from Ankara Numune Hospital and their relatives. The patients and controls were informed about this study, and their written informed consent was obtained, after which their demographic characteristics were recorded. Structured Clinical Interview for DSM-IV-TR for Axis I disorders (SCID-I) and Structured Clinical Interview for DSM-III-R Axis II disorders (SCID-II) were applied, and appropriate candidates were asked to complete the Schizotypal Personality Scale. Substance use was determined by routine urine tests done by the AMATEM laboratory.

**Results:** The study sample of 371 individuals consisted of 251 patients and 120 controls. The median value of SPD total score was 21 in the cannabis group. The ratio of patients with >21 points was significantly higher after participants with SPD were included in the group without PD ( $p<0.001$ ). Also, the ratio of individuals who had first used cannabis <18 years in the group with PD (after SPD was excluded) was 44.1%, while it was 24.5% in the group without PD ( $p=0.004$ )

Especially the use of cannabis, the level of education and income ( $p<0.001$ ), the decrease of the age of starting to use cannabis ( $p<0.002$ ), the existence of chronic mental illness in the family, 0.009 the increase of frequency of substance use  $<0.001$ , smoking and cannabis in the family  $<0.001$  are seen as important risk factors to predict the schizotypality.

**Conclusion:** Although there are many studies confirming the relation between cannabis use and schizotypality it is certain that we need to have more large-scale and longitudinal follow-up studies to help us find the direction of this relation. Knowing the direction of this relation will also help us understand the relation between cannabis use and psychosis.

**Keywords:** addiction, cannabis, schizotypy

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**[Abstract:0814] Addiction****Relationship of pathologic internet use with social phobia and depression among medical students**Aybike Telkok<sup>1</sup>, Ugur Cakir<sup>2</sup>, Umit Tural<sup>1</sup><sup>1</sup>Department of Psychiatry, Kocaeli University, Faculty of Medicine, Kocaeli-Turkey<sup>2</sup>Department of Psychiatry, Abant Izzet Baysal University, Faculty of Medicine, Bolu-Turkey

e-mail address: aybiketelkok@hotmail.com

**Objective:** In this study, it has been aimed to investigate the prevalence of Pathologic Internet Use (PIA) and its relationship with social phobia and depression among medical students.

**Methods:** The sample of the study consists of 437 students attending medical faculty in the academic year 2013-2014. Participants were assessed with socio-demographic form, Young Internet Addiction Scale (YIAS), Beck Depression Inventory (BDI) and Liebowitz Social Phobia Scale (LSPS). Acquired data was analyzed by using chi-square test, Mann-Whitney U test, one-way ANOVA test, Kruskal Wallis test and Spearman's correlation analysis.

**Results:** None of all the participants was found to be a pathologic internet user; however, the risky internet use (RIU) ratio was found to be 5%. There was no significant difference between genders in terms of RIU. Internet usage time per day, Beck Depression Inventory scores and Liebowitz Social Anxiety Scale scores were significantly higher in the RIU group compared to the non-RIU. It has been found that students use the internet most commonly for following social media, listening to music/watching videos and chatting. Males use internet for online gaming more than females while females chat and prepare homework more. No significant correlation was found between YIAS scores and smoking, alcohol use or accommodation situation.

**Conclusion:** Problematic internet use is a common problem among college students. In our study PIA and risky internet use rates were found lower among students of a medical faculty. Risky internet use is related to symptoms of depression and social phobia. Variables related to internet addiction and comorbid psychiatric disorders must be identified in order to define, prevent and treat problematic internet use.

**Keywords:** depression, internet, students

**Bulletin of Clinical Psychopharmacology 2015;25(Suppl. 1):S80**

**[Abstract:0829] Addiction****Relationship between severity of dependence with loneliness and perceived social support in individuals with alcohol and substance use disorder**Yagmur Agman<sup>1</sup>, Sumeyye Kurtulus Calli<sup>1</sup>, Selma Hilal Avci<sup>2</sup>, Selma Huner<sup>1</sup>, Rabia Bilici<sup>1</sup>, Serhat Citak<sup>1</sup><sup>1</sup>Erenkoy Mental Health Training and Research Hospital, Istanbul-Turkey<sup>2</sup>Istanbul Medeniyet University, Goztepe Training and Research Hospital, Istanbul-Turkey

e-mail address: yagmur\_sever@yahoo.com

**Objective:** Alcohol-and-substance use disorder (ASUD) in our age has become an important problem. Research shows that loneliness is a relevant important factor in the use of substances; using substances is an attempt to cope with loneliness; in both initial and continuation phase of dependence treatment for an individual with alcohol dependence problems, the support of family and social environment is significant and improves treatment compliance. In ASUD cases, the relationship between severity of dependence with loneliness and perception of social support is emphasized.

**Method:** In Erenkoy Psychiatric Hospital, Treatment and Training Center for Alcohol and Substance Dependence (AMATEM), patients admitted for inpatient treatment and diagnosed with ASUD according to DSM-5 criteria between 1 and 31 January 2015 and healthy volunteers have participated in the study. Participants were administered the 'Sociodemographic Data Form' prepared by the researchers and 'Addiction Profile Index (BAPI)', 'UCLA Loneliness Scale' and 'Multidimensional Scale of Perceived Social Support (MSPSS)'

**Results:** As preliminary data of the study, 27 ASUD patients and 14 healthy volunteers participated. All of the participants were male. The mean age of the participants was 28.70±11.39. The average BAPI score was 12.46±2.46. BAPI is determined and corresponds to the range of medium dependence severity. Of the patients, 14 (52%) were diagnosed with mild severity, 5 (18.5%) with moderate and 8 (29.5%) with high severity of dependence. Regarding UCLA loneliness scale cut-off score (56.64), 17% of participants had high general

level of loneliness score and 57% of these individuals are ASUD.4 of the healthy individuals (28%) live alone, among ASUD ones only 2 (7%) live alone. Comparing MSPSS scores between healthy controls and ASUD patients, among subscale scores, a significant difference was demonstrated between friends ( $p<0.01$ ) and private other ( $p<0.05$ ) subscale scores with total MSPSS scores ( $p<0.05$ ); there was no significant difference on the MSPSS family subscale and on the groups of UCLA loneliness scale ( $p>0.05$ ).According to the BAPI scores, especially in patients with moderate and high severity of dependence, a positive correlation is found between MSPSS family subscale with the UCLA loneliness scale ( $r=0.64$ ,  $p<0.05$ ).

**Conclusion:** ASUD patients feel lonelier than people in the healthy group. An interesting finding of the study is that while the high and moderate severity dependent patients have a greater tendency to loneliness, family support perception is also at high levels. The results show the importance of family support in ASUD as well as the importance of increasing community awareness and social support in dependence as a disease.

**Keywords:** severity of dependence, loneliness, perceived support

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## ADHD

### [Abstract:0166] ADHD

## Maintenance of effect in Attention Deficit Hyperactivity Disorder: what do placebo-controlled randomized withdrawal studies of atomoxetine and stimulants tell us?

Hasan Peksel<sup>1</sup>, Himanshu Upadhyaya<sup>2</sup>, David H. Adams<sup>2</sup>, Yoko Tanaka<sup>2</sup>, Virginia S. Haynes<sup>2</sup>, Rodrigo Escobar<sup>2</sup>, Michael Colla<sup>3</sup>

<sup>1</sup>Eli Lilly and Company, Indianapolis, Indianapolis-USA

<sup>2</sup>Lilly Research Laboratories, Eli Lilly and Company, Lilly Corporate Center, Indianapolis-USA

<sup>3</sup>Center of Excellence for ADHD and Related Disorders, Charité-Universitätsmedizin Berlin, Berlin-Germany

e-mail address: peksel\_hasan@lilly.com

**Objectives:** Attention Deficit Hyperactivity Disorder (ADHD) persists into adulthood for approximately two thirds of the patient population. There is a limited amount of information available regarding the appropriate duration of treatment. Treatment rates tend to decline from childhood to adulthood, and many patients with ADHD experience a relapse of their symptoms during treatment as well as upon treatment discontinuation. In addition, stimulant and nonstimulant treatments have differences in their efficacy profiles. Published randomized withdrawal studies have examined the maintenance of symptom control in patients with ADHD who respond when active treatment is continued compared to placebo. This analysis is based on published randomized studies and was conducted to better understand the relapse of ADHD symptoms in children, adolescents, and adults after discontinuation of long-term medication treatment.

**Methods:** This analysis included published randomized withdrawal studies in children with ADHD treated with methylphenidate, lisdexamphetamine, or atomoxetine. Published randomized withdrawal studies conducted in adults with ADHD and treated with methylphenidate modified release, osmotic-release oral system methylphenidate, lisdexamphetamine, or atomoxetine were also included. Relapse data from the atomoxetine studies were re-analyzed using the relapse criteria most commonly used in studies with stimulants (a 50% increase in Conners' Adult ADHD Rating Scales-Investigator Rated: Screening Version total score and a  $\geq 2$ -point increase in Clinical Global Impressions for Severity score).

**Results:** For stimulants and atomoxetine, among patients who were responders (6 weeks to 1 year of active treatment), the proportion of patients relapsing was significantly higher with placebo compared to active treatment. This suggests that there was a clinically significant benefit with continued long-term pharmacotherapy. However, the proportion of patients relapsing after discontinuing stimulants appeared to be higher than that observed when discontinuing atomoxetine. Of atomoxetine-treated children, 37.9% met the study-defined primary relapse criteria during the 9 months after discontinuation of active treatment compared with 61.5% treated with methylphenidate during the 2 weeks after discontinuation and 68% treated with lisdexamphetamine during the 6 weeks after discontinuation. In atomoxetine-treated adults, 7.4% met the primary relapse definition during the 25 weeks after discontinuation of active treatment compared with 49.6% treated with methylphenidate modified release during the 6 months after discontinuation and 75% treated with lisdexamphetamine during the 6 weeks after discontinuation.

**Conclusion:** In children and adults, the rate of relapse was lower when discontinuing atomoxetine compared with stimulants. This may be a consequence of methodological differences, including study design and response/relapse definitions, or it may reflect differences in mechanisms of action and persistence of the medication effect. Continued investigation is needed regarding factors that affect the risk of symptom relapse on discontinuation of pharmacotherapy. This study was funded by Eli Lilly and Company, Indianapolis, IN, USA. Drs Upadhyaya, Adams, Tanaka, Haynes, and Escobar are full-time employees and stock holders of Eli Lilly and Company. Dr Colla has participated in advisory boards, received speaker's honoraria or participated in Phase 3 studies within the past 3 years with Shire, Eli Lilly, Janssen-Cilag and Novartis.

**Keywords:** attention deficit hyperactivity disorder, relapse, atomoxetine

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**[Abstract:0167] ADHD****Patterns of response to atomoxetine in the treatment of adult patients with Attention Deficit Hyperactivity Disorder**

Hasan Peksel<sup>1</sup>, Esther Sobanski<sup>2</sup>, Sami Leppämäki<sup>3</sup>, Chris Bushe<sup>4</sup>, Lovisa Berggren<sup>5</sup>, Marta Casillas<sup>6</sup>, Walter Deberdt<sup>7</sup>

<sup>1</sup>Eli Lilly and Company, Indianapolis, Indianapolis-USA

<sup>2</sup>Central Institute of Mental Health Mannheim, University of Heidelberg, Medical Faculty Mannheim, Mannheim-Germany

<sup>3</sup>Department of Psychiatry, Finnish Institute of Occupational Health, Helsinki University Central Hospital, Helsinki-Finland

<sup>4</sup>Medical Department, Eli Lilly, Reading-United Kingdom

<sup>5</sup>Statistical Department, Eli Lilly, Bad Homburg-Germany

<sup>6</sup>Medical Department, Eli Lilly, Alcobendas-Spain

<sup>7</sup>Medical Department, Eli Lilly, Brussels-Belgium

e-mail address: pekssel\_hasan@lilly.com

**Objectives:** In studies of adult patients with attention deficit hyperactivity disorder (ADHD), atomoxetine has demonstrated substantial improvements in ADHD symptomatology using the Conners' Adult ADHD Rating Scales (CAARS). The pattern suggests that there is an incremental response over time, with no clear plateau of response. This analysis was conducted to identify patterns of response to atomoxetine in adult ADHD patients and to describe those trajectories over time, and to determine if patients have distinct response trajectories using CAARS in 2 populations during short-term (12 weeks) and long-term (24 weeks) atomoxetine treatment.

**Methods:** Data from 13 studies of 2502 atomoxetine-treated patients, with a CAARS-Investigator Rated: Screening Version (CAARS-Inv:SV) total score at baseline and at either a  $\geq$  short-term or  $\geq$  long-term time point, were included in the analyses. Data were obtained from Phase 2, 3, or 4 double-blind or open-label studies. Nine of the source studies were long term. Percentages of responders were calculated based on a  $\geq$ 30% improvement in CAARS-Inv:SV total scores from baseline and a Clinical Global Impressions for Severity (CGI-S) of ADHD score  $\leq$ 3. The numbers of trajectory clusters based on response rate for short-term (n=2502) and long-term (n=1139) data were identified using hierarchical clustering methods. Linear mixed modeling was used to describe mean last observation carried forward change to end point in CAARS-Inv:SV, CGI-S, and Adult ADHD Quality of Life (AAQoL) scores.

**Results:** Using CAARS total, 4 trajectory clusters were identified in short-term treated patients and 5 in long-term treated patients. Baseline characteristics appeared to be similar in each cluster with the exception of ADHD subtypes, CAARS-Inv:SV total score, and CGI-S scores, which differed numerically. Three out of 4 short-term (representing 84% of patients) and 4 out of 5 long-term (representing 96% of patients) trajectory clusters showed more successful trajectories. In the long-term trajectory clusters, there was a rapid increase in the proportion of responders in 2 of the clusters, and almost all of the patients had responded after 24 weeks of treatment. A further 2 long-term trajectory clusters showed a more gradual increase, with the proportion of responders continuing to increase over the 24 weeks. In general, clusters with less improvement were those with the worst baseline CAARS-Inv:SV and minimal initial improvement. Distinct trajectory patterns of response were found that were incremental over time in all clusters. Changes in CAARS-Inv:SV total scores were consistent with changes seen in CGI-S and AAQoL total scores.

**Conclusion:** Adult ADHD patients receiving atomoxetine have individual trajectories of response that can be divided into 4 short-term and 5 long-term trajectories. The proportion of responders increased over time, with no plateau in response

**Keywords:** attention deficit hyperactivity disorder, adult, quality of life

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**[Abstract:0279] ADHD****Self-image profile in children and adolescents with attention deficit hyperactivity disorder and the quality of life of their parents**Vahdet Gormez<sup>1</sup>, Fiona Forbes<sup>2</sup><sup>1</sup>Bezmialem University, Istanbul-Turkey<sup>2</sup>The University of Edinburgh and Royal Edinburgh Hospital, Edinburgh-United Kingdom

e-mail address: vahdetgormez@gmail.com

**Objective:** We explored the impact of clinical response to treatment for Attention Deficit-Hyperactivity Disorder (ADHD) in children and adolescents on the subsequent changes in their self-image profile, the quality of life of their parents and its effect on socio-demographic variables.

**Method:** Conner's Rating Scales for Parents (CPRS-R) and for Teachers (CTRS-R) completed at the time of entry to the service were repeated to measure clinical response to treatment; the Self-Image Profiles for Children (SIP-C) and Adolescents (SIP-A), the World Health Organization Quality of Life (WHOQoL) questionnaire and postcode data were used to evaluate other domains.

**Results:** Data was collected for 53 boys (84%) and 10 girls (16%) with current mean age 11.5 years. Four-fifths (51/63) received pharmacological treatment and all parents were offered group parent training program. The only subscale in CPRS-R to show significance was the ADHD Index. The CTRS-R demonstrated statistically significant improvement ( $p < 0.01$ ) in most subscales. On the Self-Image Profile, children reported themselves as more kind ( $p < 0.012$ ), more helpful ( $p < 0.038$ ) and less bossy ( $p < 0.047$ ). Comparison of pre- and post-treatment scores on QoL revealed no significant changes; however, correlations of QoL responses against CPRS post-treatment revealed significant negative relationships in a number of instances. Parents living in less deprived areas felt their lives were more meaningful and less likely felt negatively about themselves ( $p = 0.04$ ,  $N = 26$ ,  $\rho = 0.405$ ).

**Conclusion:** Multimodal treatment provided in a specialist ADHD clinic, where a wide range of clinical resources are readily available, can generate significant improvement in the core symptoms of ADHD and oppositional behavior. Such improvement was clearly reflected in the ratings by teachers (CTRS-R). Positive impact of treatment also seems to produce some positive changes in the self-image profile of children in treatment and the quality of life in their parents/careers. Future research aiming to further explore the relationship between children's self-image and the parental quality of life and the impact of treatment on the latter would be useful. As parents can be directly affected by the emotional and behavioral problems of their children, low quality of life in the parents might be an indicator of their own emotional difficulties. Further research exploring this area might lead to joint intervention between child and adolescent mental health services, primary care and adult mental health services.

**Keywords:** ADHD, quality of life, self-image profile

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**[Abstract:0298] ADHD****An online survey of Turkish psychiatrists' attitudes and experiences regarding adult attention deficit hyperactivity disorder in clinical practice**

Bengi Semerci, Gamze Ergil Altin

Bengi Semerci Institute, Istanbul-Turkey

e-mail address: gamzeergil@yahoo.com

**Objective:** Adult attention deficit hyperactivity disorder (ADHD) can be an extremely debilitating neurodevelopmental disorder that often persists beyond childhood, affecting 2.5-5% of adults in the general population. Aim of this study was to provide data about the presentation of adult ADHD in clinical practice in Turkey and about treatment strategies of Turkish adult psychiatrists in different hospital settings.

**Method:** A cross-sectional online survey to be filled out by Turkish adult psychiatrists was designed in May 2014. The survey was administered through the Turkish Psychiatry Association (PAT) mail group which covers over 90% of the Turkish adult psychiatry population. It included 10 questions focusing on treatment environment, patterns of patient applications, and treatment strategies.

**Results:** A total of 124 psychiatrists with a homogenous range of different treatment settings (public hospitals, university hospitals, private clinics etc.) completed the survey. Although most participants (53.6%) reported that they treated more than 20 patients in a day, most of them were following fewer than 10 adult ADHD patients in their clinics. Transition rate from child to adolescent psychiatrists were found to be very low (<10% as reported by 77.3% of participants). Media and the restraint by the social environment turned out to be effective factors for treatment application. There were significant differences of attitudes about the treatment of adult ADHD. Rating questions were asked to survey respondents to compare treatment strategies in order of frequency. 62.6% of the participants reported that they always prefer psychoeducation in addition to medication treatment, whereas only 9.59% of the participants reported that they always combine psychotherapy with medication in the treatment of adult ADHD. The most favored medical treatment was stimulants (31.9% reported as using it "always" and 57.4% reported as using it "frequently"). The other frequently preferred medications were antidepressants (56.6%) and non-stimulants (37.4%). Anxiety disorders have been reported as the most common comorbid disorder with adult ADHD (40.4%), followed by alcohol/substance abuse disorders (29.7%) and depression (15.9%).

**Conclusion:** The outcomes of this survey show that despite the presence of a rapidly expanding literature on diagnosis and treatment of ADHD in adulthood, there are still only few psychiatrists in Turkey working on adult ADHD. A very low percentage of patients who were diagnosed in childhood are being referred to adult psychiatrists and most of the psychiatrists do not describe themselves as competent enough to diagnose and treat adult ADHD. Psychoeducation seems to be a more widely embraced treatment choice than psychotherapy in daily clinical practice. Adult ADHD is still a clinical entity that has a lower degree of awareness even among psychiatrists compared to ADHD in childhood and adolescence. We suggest a more comprehensive and standardized training to improve the management of adult ADHD and also to develop the cooperation between child and adolescent psychiatrists and adult psychiatrists for the transition of patients.

**Keywords:** adult, attention deficit disorder with hyperactivity, cross-sectional studies

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**[Abstract:0320] ADHD**

## Vitamin B12 levels and socioeconomic status in ADHD patients

[Berna Polat, Veli Yildirim, Fevziye Toros](#)

Department of Child and Adolescent Psychiatry, Mersin University, Faculty of Medicine, Mersin-Turkey  
e-mail address: bernatalop@gmail.com

**Objective:** Attention-deficit/hyperactivity disorder (ADHD) is the most common neurodevelopmental disorder of childhood. Prevalence of ADHD varies from country to country. According to DSM-5, prevalence of ADHD is up to 13% in follow-up studies involved school-age children. Vitamin B12 deficiency is a medical condition which may be associated with many psychiatric disorders such as depression, schizophrenia, bipolar disorder and cognitive decline. Poor intake or malabsorption causes vitamin B12 deficiency. It is known that socioeconomic factors may influence dietary quality and vitamin intakes. In the present study, we planned to examine the association between socioeconomic status of ADHD patients and their vitamin B12 blood level.

**Methods:** Patients between the ages of 3 and 17 years who were first diagnosed with ADHD according to the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) criteria were approached for this study. Patients who were on vitamin B12 deficiency treatment were excluded from the study. All patients were divided into two groups: low and high socioeconomic status. The catchment area of Mersin State Hospital consists of low-income families. The low socioeconomic status group involved 350 patients who were chosen from Mersin State Hospital, while the high socioeconomic status group involved 253 patients from Mersin University Hospital. Cut-off points for the diagnosis of vitamin B12 deficiency were determined 187 pg/ml for Mersin State Hospital and 197 pg/ml for Mersin University Hospital. PASW v.18 program was used in the statistical analyses. Independent Samples t test was applied for comparing the groups in terms of continuous variables. Chi-square or Fisher's Exact were applied for categorical variables.

**Results:** The sample consisted of 603 children and adolescents (412 boys, 191 girls) between 3 and 17 years of age (mean±SD=10.10±3.45 for the state hospital, mean±SD=9.89±3.30 for the university hospital). In this study, there were no differences in B12 blood levels by gender. In the high socioeconomic group, B12 blood levels were detected to be higher than in the low socioeconomic group. There were positive correlations between socioeconomic level and vitamin B12 blood level. Vitamin B12 deficiency in Mersin State Hospital (16.3%) was seen more common than at Mersin University (5.1%).

**Conclusion:** This report emphasizes the importance of assessment of vitamin B12 in ADHD patients. A study in general psychiatric inpatients reports the incidence of vitamin B12 deficiency to be 4–6%. Omega-3, vitamins and minerals have been linked to developmental outcomes including attention deficit hyperactivity disorder. Adolescents who have a borderline level of vitamin B12 can develop signs of cognitive changes. A combined vitamin, mineral, amino acid treatment may be effective in improving attention and self-control in

children with ADHD. Vitamin B12 deficiency which is one of the preventable and treatable medical condition, must be given attention especially in ADHD patients with low socioeconomic status. It can be useful to investigate vitamin B12 deficiency for patients with an ADHD diagnosis and treatment process.

**Keywords:** attention deficit/hyperactivity disorder, vitamin B12, socioeconomic status

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**[Abstract:0329] ADHD**

## Methylphenidate hydrochloride and asymptomatic ocular changes

Najihan Saday Duman<sup>1</sup>, Rahmi Duman<sup>2</sup>, Emel Sari Gokten<sup>1</sup>, Sadik Gorkem Cevik<sup>2</sup>, Ayse Balikci<sup>2</sup>, Neslihan Parmak<sup>2</sup>, Mehmet Erdem Uzun<sup>1</sup>, Sertac Argun Kivanc<sup>3</sup>, Resat Duman<sup>4</sup>

<sup>1</sup>Department of Child and Adolescent Psychiatry, Bursa Sevket Yilmaz Training and Research Hospital, Bursa-Turkey

<sup>2</sup>Department of Ophthalmology, Bursa Sevket Yilmaz Training and Research Hospital, Bursa-Turkey

<sup>3</sup>Department of Ophthalmology, Uludag University, Bursa-Turkey

<sup>4</sup>Department of Ophthalmology, Afyon Kocatepe University, Afyonkarahisar-Turkey

e-mail address: esgokten@hotmail.com

**Objective:** To examine cataract formation and assess intraocular pressure (IOP) measurement with Goldmann applanation tonometry in children taking methylphenidate hydrochloride.

**Methods:** Forty children with attention deficit hyperactivity disorder aged 9-18 years for whom methylphenidate hydrochloride was indicated and used for at least one year were included in this study. Examinations including IOP measurement and anterior and posterior segment examination were performed.

**Results:** In this study we present our preliminary results. We plan to examine consecutively one hundred children. Forty patients received ophthalmic examinations. The 40 patients included 27 males, 13 females, mean age 9.6 (9-18) years; methylphenidate hydrochloride was given for attention deficit hyperactivity disorder. Mean MPH dosage was  $0.9 \pm 0.10$  mg/kg/day and mean duration of MPH usage was 25 months. High intraocular pressure was not measured in any of the patients in the study. Cataract formation was observed in 4 eyes of 4 patient.

**Conclusion:** We detect long-term use of methylphenidate hydrochloride induce cataract formation. In particular, patients using methylphenidate longer than two years should undergo regular eye examination.

**Keywords:** attention deficit hyperactivity disorder, cataract, methylphenidate

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**[Abstract:0421] ADHD**

## Sleep habits and related sleep disorders in children with attention deficit hyperactivity disorder

Bedia Ince Tasdelen<sup>1</sup>, Emel Karakaya<sup>2</sup>, Ozlem Kahraman<sup>2</sup>, Didem Behice Oztop<sup>2</sup>

<sup>1</sup>Department of Child and Adolescent Psychiatry, Elazig Mental Health and Disease Hospital, Elazig-Turkey

<sup>2</sup>Department of Child and Adolescent Psychiatry, Erciyes University, Faculty of Medicine, Kayseri-Turkey

e-mail address: dboztop@hotmail.com

**Objective:** Attention deficit hyperactivity syndrome (ADHD) is one of the most frequent psychiatric disorders of childhood. The main symptoms of ADHD such as inattention, impulsivity and irritability are also known to be symptoms of sleep deficiency. Although problems regarding sleep structure and efficiency have been reported in children with ADHD in recent studies, underlying factors as well as etiopathogenesis of this potential relationship is unclear. The aim of this study was to identify sleep habits and to investigate sleep problems which can be of a higher incidence than in the general population in children diagnosed as ADHD but not receiving pharmacological intervention.

**Methods:** This study was conducted at the Child Psychiatry Department of Erciyes University, Medicine School between 2012 and



2014. The study sample consisted of 50 children aged 7-12 years who presented to outpatient clinic with inattention, hyperactivity and impulsivity for the first time and were diagnosed as combined type ADHD based on DSM-IV criteria by using KSADS-PL interview but had not received pharmacological therapy, and 50 age- and sex-matched, healthy children who had no neurological or psychiatric disorder and were not on medication. WISC-R score <80 was an exclusion criterion in both study and control group. All subjects completed Children Sleep Habit Questionnaire (CSHQ), which was then assessed statistically.

**Results:** Mean age was  $9.46 \pm 1.51$  in study population, and 78% of study population were male. No significant difference was found in WISC-R scores and socioeconomic status between groups.

In the study, Cronbach's alpha coefficient of the scale was found to be 0.78. Of 11 items addressed by the scale, significant differences were found between ADHD and control groups regarding awakening (longer time to be alert, awakening in negative mood and tired), sleep-disordered breathing (snoring and gasp), parasomnia (irritability during sleep, bruxism, talking during sleep), sleep duration, sleep latency (sleep onset time). It was seen that 78% of the ADHD group (n=39) and 58% of control group (n=29) achieved  $\geq 42$  points in the total score of the scale, which is considered to be clinically significant, and there was significant difference between groups ( $p < 0.001$ ). Moreover, it was found that there was a difference in bedtime resistance, which was eliminated in factor analysis. No significant differences were found in sleep disruption, sleep anxiety (being afraid of sleeping in the dark, afraid of sleeping alone, awakening patterns, need for sleeping with another person, daytime sleepiness, and enuresis). No significant differences were found in total sleep duration, bedtime and time to fall asleep in case of night awakenings in open-ended questions.

**Conclusion:** This study revealed that children have significantly higher degrees of sleep disorders regardless of any drug therapy. In addition, it should be kept in mind that attention and learning issues that can be seen in sleep disorders can exacerbate existing ADHD symptoms and higher rates of parasomnia can cause increased behavioral problems in children with ADHD. In these children, assessment and management of sleep disorders at diagnosis can significantly reduce behavioral symptoms and may improve quality of life for children and families.

**Keywords:** ADHD, parasomnia, sleep habits

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### [Abstract:0425] ADHD

## Evaluation of iron and iron-related parameters in children and adolescents with attention deficit hyperactivity disorder

[Kemal Utku Yazici<sup>1</sup>](#), [Ipek Percinel<sup>2</sup>](#)

<sup>1</sup>Department of Child and Adolescent Psychiatry, Firat University, Faculty of Medicine, Elazig-Turkey

<sup>2</sup>Department of Child and Adolescent Psychiatry, Osmaniye State Hospital, Osmaniye-Turkey

e-mail address: dr.kemal.utku@outlook.com

**Objective:** This study aimed to compare parameters of iron deficiency in patients with attention deficit hyperactivity disorder (ADHD) and healthy controls, investigate the differences among subtypes of ADHD, and assess the relationship between level of ferritin and severity of ADHD symptoms.

**Methods:** The study included 200 patients with ADHD and 100 healthy controls. The ADHD group consisted of 100 patients with ADHD-Combined subtype and 100 patients with ADHD-Predominantly Inattentive subtype. The diagnosis was made using the Schedule for Affective Disorders and Schizophrenia for School-Age Children - Present and Lifetime Version, a semi-structured interview. Levels of intelligence were assessed using a short form of the Wechsler Intelligence Scale for Children. The patients with a history of using atomoxetine or stimulants or any psychotropic agents or iron preparations, those with a comorbid psychiatric disorder or any acute/chronic systemic disease, and those with a history of infection in the last one month were not included in the study. Clinical evaluations were made using socio-demographic data form, DSM-IV Based Attention Deficit and Disruptive Behavior Disorder Screening and Rating Scale (Parent-Teacher) and Conners' Rating Scale - Revised: Long Form (Parent-Teacher) (CPRS-R:L, CTRS-R:L).

**Results:** No meaningful difference was found between patients with ADHD and healthy controls in serum ferritin, serum iron, iron binding capacity, hemoglobin, hematocrit, mean corpuscular volume, red blood cell count, and red cell distribution width parameters; and ADHD subtypes also did not differ from each other in these parameters. A negative correlation was observed between CPRS-R:L Hyperactivity and CTRS-R:L Hyperactivity scores and serum ferritin levels in the ADHD group.

**Conclusion:** As can be seen, the results of studies on ADHD and serum ferritin levels are still inconsistent. Clarification of findings is considered to be of importance for the etiology and treatment of ADHD. Our study included pure ADHD patients, and ADHD subtypes

were very well defined. Examining the literature, it is seen that our study includes the largest number of patients in identification of ADHD subtypes. There is a need for further studies on this subject with a greater number of cases. For further studies, we recommend the analysis of molecules involved in the regulation of iron homeostasis besides peripheral iron parameters.

**Keywords:** ADHD, ferritin, subtypes

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### [Abstract:0426] ADHD

## Evaluation of anger and aggression level in parents of children with attention deficit hyperactivity disorder

[Koray Kara](#)<sup>1</sup>, [Ibrahim Durukan](#)<sup>1</sup>, [Cem Koparan](#)<sup>2</sup>, [Demet Altun](#)<sup>3</sup>, [Dursun Karaman](#)<sup>1</sup>, [Selcuk Ozkan](#)<sup>1</sup>

<sup>1</sup>Department of Child and Adolescent Psychiatry, Gulhane School of Medicine, Ankara-Turkey

<sup>2</sup>Department of Child and Adolescent Psychiatry, Antalya Training and Research Hospital, Antalya-Turkey

<sup>3</sup>Department of Pediatrics, Etimesgut Military Hospital, Ankara-Turkey

e-mail address: drkrykr@yahoo.com

**Objective:** Attention deficit hyperactivity disorder (ADHD) is one of the most common neuropsychiatric disorders of childhood which is characterized by hyperactivity, attention deficit and impulsivity. Children diagnosed with ADHD have academic problems, difficulties in peer relationship and frequent problems with their parents. In this study we aimed to assess the aggression and trait anger-anger expression levels in parents of children with ADHD and to investigate the relationship between symptoms of ADHD/oppositional defiant disorder and aggression and anger levels of parents.

**Method:** The study sample consisted of parents of 58 children between 6-14 ages diagnosed with ADHD. The healthy control group consisted of 54 healthy children's parents. Both ADHD and healthy control group were assessed with sociodemographic data form, Buss-Perry aggression questionnaire and trait anger expression inventory. Symptoms of ADHD in children were evaluated with the DSM-IV Based Behavior Disorders Screening and Rating Scale.

**Results:** The study group included parents of 45 boys and 13 girls. The healthy control group included parents of 36 boys and 14 girls. Maternal age ( $p<0.001$ ), paternal age ( $p<0.001$ ), maternal education level ( $p<0.001$ ) had statistically significant difference; gender ( $p=0.093$ ) and education level ( $p=0.16$ ) of child and paternal education level ( $p=0.17$ ) were statistically similar. Trait anger level in mothers of children with ADHD group ( $19.4\pm 5.2$ ) was found higher than in mothers of the control group ( $17.8\pm 2.7$ ). Anger control level of parents in children with ADHD ( $20.7\pm 5.8$ ,  $21.6\pm 4.5$ ) was found lower than in the control group ( $23.8\pm 4.6$ ,  $24.1\pm 4.6$ ) ( $p=0.003$ ,  $p=0.016$ ). Total aggression scores ( $p=0.04$ ) and hostility subscale scores ( $p=0.02$ ) of mothers in the study group obtained through the Buss-Perry aggression questionnaire were found higher than in mothers of healthy children. There were statistically significant positive correlations between physical and verbal aggression, anger and total aggression subscale scores of mothers in the ADHD group and Behavior Disorders Screening and Rating Scale attention subscale scores, verbal aggression and total aggression subscale scores and opposition defiance subscale scores. There were statistically negative correlations between physical and indirect aggression, anger and total aggression scores of fathers in ADHD group and behavior disorders screening and rating scale attention subscale scores; verbal aggression scores and behavior disorders screening and rating scale hyperactivity subscale scores. There were positive correlations only between trait anger level of mothers of children with ADHD and behavior disorders screening and rating scale attention deficit subscale scores.

**Conclusion:** In our study, for the ADHD group, trait anger and anger control levels of mothers, anger control levels of fathers and total aggression level of mothers were found to be higher than in the healthy group. Parents of children with ADHD should be aware of their emotion and behavior related to anger and aggression during the treatment of child.

**Keywords:** attention deficit hyperactivity disorder, aggression and anger expression, parent

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**[Abstract:0446] ADHD****Relationship between symptoms of attention deficit hyperactivity disorder in childhood and mood in patients applying for bariatric surgery**

[Ibrahim Taymur](#)<sup>1</sup>, [Evren Dilektas](#)<sup>2</sup>, [Ersin Budak](#)<sup>3</sup>, [Buket Belkiz Gungor](#)<sup>1</sup>, [Murat Cayci](#)<sup>2</sup>, [Almila Ikra Akgul](#)<sup>1</sup>, [Zeynep Anil Sahin](#)<sup>1</sup>, [Rustem Askin](#)<sup>1</sup>

<sup>1</sup>Department of Psychiatry, Sevket Yilmaz Training and Research Hospital, Bursa-Turkey

<sup>2</sup>Department of General Surgery, Sevket Yilmaz Training and Research Hospital, Bursa-Turkey

<sup>3</sup>Department of Psychiatry, Sevket Yilmaz Training and Research Hospital, Bursa-Turkey

e-mail address: dritay@yahoo.com

**Objective:** Obesity has recently been reported as an important health problem. Comorbid psychiatric disorders and mood characteristics in obese patients have an important role in the effectiveness of treatment for weight loss. The correlation of obesity and dependency has recently been indicated with biological studies. Clinical and psychopathological studies of the correlation of obesity and dependency focus on attention deficit hyperactivity disorder (ADHD) and mood characteristics. Cyclothymic temperament is dominant in patient with obesity, and self-stimulating behaviors and seeking stimulus in these patients affect eating behaviors and may cause obesity. Reported studies show that ADHD is more common in obese patients than in the healthy population. In addition, patients with ADHD resort to drug abuse to deal with demoralization, fatigue and depression. The self-medication hypothesis is used to understand the relationship with ADHD and dependency. In childhood and adult ADHD patients, cyclothymic temperament is more common. (3) However, there is no research to evaluate ADHD patients and their personal characteristics. The aim of this study is to analyze the relationship between childhood ADHD and personal characteristics in morbid obese patients who apply for bariatric surgery.

**Methods:** The population of this study is selected from patients who applied for bariatric surgery at Bursa Sevket Yilmaz Training and Research Hospital between January and November 2014, and 89 of them were suitable for surgery and were included in this research. Adult ADHD Self-Report Scales (ASRS-v1.1), Wender-Utah Rating Scale-25 (WURS-25), Temperament Evaluation of Memphis, Pisa, Paris and San Diego (TEMPS) and Beck Depression Inventory, Beck Anxiety Inventory and The Eating Attitudes Test-40 were applied to them.

**Results:** Eighty-nine patients in the study include 69 female and 20 male individuals. Average age of this population is 34.84±9.93, average education years 9.4±3.5 and average BMI is 46.42±5.34. According to WURS-25 test, 13 patients (14.60%) are diagnosed with childhood ADHD with a score of 36 points or more. According to Beck Depression Inventory and Beck Anxiety Inventory, childhood ADHD patients have more depressive ( $p=0.002$ ), cyclothymic ( $p<0.001$ ), irritable ( $p=0.013$ ) and anxious ( $p=0.008$ ) temperament features than the control group, and these findings are statistically significant. No significant relation was found between the patients with ADHD and the control group in terms of eating attitude ( $p=0.058$ ). Positively significant correlations are found among the depressive, cyclothymic, irritable, anxious subscales of WUR-25 and TEMPS. Moreover, positively significant correlations were obtained among all the subtypes of temperament in ASRS and TEMPS.

**Conclusion:** The relation between obesity and dependency has been recently indicated with clinical studies (1). High incidence of cyclothymic temperament and ADHD is observed in patients who apply for bariatric surgery (2). In our study, it was found that ADHD and cyclothymic temperament demonstrate significantly high correlations. The dependency ratio is reported high in patients with ADHD and cyclothymic temperament. The assessment of psychopathological characteristics related with dependency can be helpful in the treatment and follow-up of obese patients.

**Keywords:** bariatric surgery, attention deficit and hyperactivity disorder, temperament

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**[Abstract:0637] ADHD****Relationship between the symptoms of attention deficit hyperactivity disorder in childhood, general psychopathological features, and eating attitudes in patients applying for bariatric surgery**

[Ibrahim Taymur](#)<sup>1</sup>, [Evren Dilektas](#)<sup>2</sup>, [Ersin Budak](#)<sup>3</sup>, [Buket Belkiz Gungor](#)<sup>1</sup>, [Murat Cayci](#)<sup>2</sup>, [Almila Ikra Akgul](#)<sup>1</sup>, [Zeynep Anil Sahin](#)<sup>1</sup>, [Rustem Askin](#)<sup>1</sup>

<sup>1</sup>Department of Psychiatry, Sevket Yilmaz Training and Research Hospital, Bursa-Turkey

<sup>2</sup>Department of General Surgery, Sevket Yilmaz Training and Research Hospital, Bursa-Turkey

<sup>3</sup>Department of Psychiatry, Sevket Yilmaz Training and Research Hospital, Bursa-Turkey

e-mail address: dritay@yahoo.com

**Objective:** Attention deficit/hyperactivity disorder (ADHD) is a psychiatric disorder that begins in childhood and shows effects in adulthood. ADHD symptoms in adulthood usually consist in inattentiveness, depression, impulsivity, sensitivity to stress, anxiety, and behavior problems. It has been reported that the prevalence of ADHD is 4.4%. In morbidly obese patients in adulthood, general psychopathological and ADHD symptoms occur at a higher rate than in non-obese patients. These symptoms are important risk factors for the postoperative amount of weight loss and continuity in patients applying for bariatric surgery. The aim of this study is to analyze the relationship between childhood ADHD and general psychopathological features and eating attitudes in the morbidly obese patients (BMI:40>m2) who apply for bariatric surgery.

**Methods:** The population of this study is selected from patients who applied for bariatric surgery at Bursa Sevket Yilmaz Training and Research Hospital between January and November 2014, and 89 of them were suitable for surgery and were included in this research. Adult ADHD Self-Report Scales (ASRS-v1.1), Wender-Utah Rating Scale-25 (WURS-25), The Eating Attitudes Test-40 and the Symptom Checklist-90 (SCL-90) were applied to them.

**Results:** Eighty-nine patients in the study include 69 female and 20 male individuals. Average age of this population is 34.84±9.93, average education years 9.4±3.5 and average BMI is 46.42± 5.34. According to WURS-25 test, 13 patients (14.60%) are diagnosed with childhood ADHD with a score of 36 points or more. In childhood ADHD patients, all scores except somatization and anxiety subscales showed a statistically significant elevation (p<0.05). No significant relation was found between the patients with ADHD and the control group in terms of eating attitude. Despite this, compared to the cut-off point of the scale, disordered eating attitudes were detected in 8 of 13 childhood ADHD patients (61.53%). The rate of eating disorder was 25% (19 of 76 patients) in the control group. In the results of the analysis of correlation between ASRS, WURS-25, The Eating Attitudes Test-40 and SCL-90, positively significant correlations were found between ASRS, WURS-25 and all subscales of SCL-90, but there was not significant correlation in terms of eating attitude.

**Conclusion:** The rate of childhood ADHD in patients admitted to bariatric surgery (14.6%) was found higher than the prevalence in the general population (4%). In patients with childhood ADHD, general psychopathological symptoms and eating disorders demonstrate high correlations. These symptoms are important risk factors for the postoperative amount of weight loss and continuity. To focus on the general psychopathological features and ADHD may be helpful in the monitoring and treatment of these patients.

**Keywords:** attention deficit and hyperactivity disorder, eating attitudes, obesity

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**[Abstract:0700] ADHD****Association of attention deficit hyperactivity disorder symptoms with acne vulgaris in a female clinical sample**

[Ayhan Bilgic](#)<sup>1</sup>, [Ozlem Bilgic](#)<sup>2</sup>, [Rukiye Sivri Colak](#)<sup>1</sup>, [Hilmi Cevdet Altinyazar](#)<sup>2</sup>

<sup>1</sup>Department of Child and Adolescent Psychiatry, Necmettin Erbakan University, Meram Faculty of Medicine, Konya-Turkey

<sup>2</sup>Department of Dermatology, School of Medicine, Selcuk University, Konya, Turkey

e-mail address: bilgicayhan@yahoo.com

**Objective:** Attention deficit hyperactivity disorder (ADHD) has recently been reported to be related to elevated rates of acne vulgaris in two different epidemiological studies. However, the association between ADHD and acne vulgaris has not been investigated in a clinical setting. ADHD is a childhood-onset neurodevelopmental disorder; therefore, it is not expected to develop

secondarily to the psychosocial burden of having acne vulgaris. It has been considered that androgen exposure in early life may be related to the development of both ADHD and acne vulgaris. Therefore, elucidating the putative association between ADHD and acne vulgaris may help in identifying common etiological factors between these conditions, such as elevated androgen exposure in early life. The aim of this study was to assess the symptoms of childhood and current ADHD symptoms in a clinical sample of women with acne vulgaris.

**Methods:** The study sample consisted of 91 women with acne vulgaris referred to the Dermatology Clinic of Selcuk University Faculty of Medicine and 53 control subjects. Childhood and current ADHD symptoms of the participants were assessed using the Wender Utah Rating Scale (WURS) and the Adult ADHD Self-Report Scale (ASRS), respectively. Acne severity was measured by the International Consensus Conference on Acne Classification System, which classifies three grades (mild, moderate, and severe acne). While the normal distribution of variables was acceptable, Student's t-test and, in other cases, Mann-Whitney U-test were used to analyze the differences between patient and control groups. Pearson or Spearman correlation coefficients were calculated to examine the relationship between the ADHD scores and severity of acne.

**Results:** The mean age did not differ significantly between the patient ( $22.2\pm 4.3$  years) and control ( $22.4\pm 4.4$  years) groups. The education level was also similar in the patients with acne vulgaris ( $13.3\pm 3.0$  years) and controls ( $13.7\pm 2.9$  years) (range: 5–17 years). There were no significant differences between patients and controls on any of the ADHD scales. Furthermore, except for childhood irritability, ADHD symptoms did not show a relationship with acne severity.

**Conclusion:** Contrary to the results of past epidemiological studies, this study did not show a relationship between ADHD and acne vulgaris in the clinical sample. As a conclusion, our study did not support the view that ADHD is related to acne vulgaris.

**Keywords:** acne vulgaris, attention deficit hyperactivity disorder, female

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#### [Abstract:0790] ADHD

### Smoking addiction in attention deficit hyperactivity disorder, and attention deficit hyperactivity disorder indications in smoking addiction – a controlled study

Bulent Bilgi<sup>1</sup>, Ozge Sahmelikoglu Onur<sup>2</sup>, Umut Mert Aksoy<sup>2</sup>

<sup>1</sup>Dogubeyazit Dr. Yasar Eryilmaz State Hospital, Agri-Turkey

<sup>2</sup>Bakirkoy Training and Research Hospital for Psychiatry, Neurology and Neurosurgery, Istanbul-Turkey

e-mail address: ozge\_sahmelikoglu@hotmail.com

**Objective:** The aim of this study is to compare the attention deficit hyperactivity disorder (ADHD) symptoms of individuals diagnosed with ADHD having smoking profiles and smoking addiction before the treatment process with healthy controls in order to understand better the mutual and complex relationship between ADHD and smoking.

**Methods:** Forty adults who had attended the clinics and polyclinics of Bakirkoy Prof. Dr. Mazhar Osman Psychiatric Training Research Hospital and been directed to the ADHD outpatient clinic, 40 participants who had presented to the Smoking cessation outpatient clinic without any psychiatric disorder, and 40 healthy controls having no psychiatric disorders were included in the study. It was planned to apply the Sociodemographic Data Form, Wender-Utah Rating Scale (WUDO), Adult ADD/ADHD diagnosis and evaluation Inventory and Fagerstrom Nicotine Dependence Test (FNBT) to the participants.

**Results:** In our study, it was observed that the characteristics of the phenomena in the ADHD group relating to the attention deficit and hyperactivity were significantly higher than the scores of the phenomena in the other two groups statistically ( $p:0.001$ ;  $p:0.001$ ;  $p<0.01$ , respectively). It was also observed that the scores of the phenomena in the smoking addiction group were significantly higher than the scores of the phenomena in the control group statistically ( $p:0.005$ ;  $p<0.01$ ). As for the Fagerstrom scores, no significant difference was determined between the ADHD group and the smoking addiction group ( $p>0.05$ ). When compared with the control group, both the Fagerstrom scores and the scores relating to the ADHD of the other two groups are significantly high.

**Conclusion:** The fact that attention deficit, hyperactivity, characteristics relating to attention deficit, and WUDO scores in the smoking addiction group were high compared to the controls in our study supports the relation between ADHD symptoms and smoking. A significant difference could not be determined in the Fagerstrom scores between the ADHD group and the smoking addiction group, and in both groups, the scaling scores concerning the ADHD were determined as significantly high compared with the control group. We think the co-occurrence of the smoking addiction and ADHD symptoms is important in clinical evaluations. In most studies,

ADHD is approved as an independent risk factor for development of Nicotine Dependence, This relationship could be explained by dopaminergic dysregulation both in nicotine dependence and ADHD. Treatment modalities of nicotine dependence supports this view. Further studies will shed light on this relationship and provide preventive strategies for development of nicotine dependence both in ADHD and normal population.

**Keywords:** smoking addiction, adult attention deficit hyperactivity disorder, treatment

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## ANXIETY, STRESS, AND ADJUSTMENT DISORDERS

[Abstract:0293] *Anxiety, stress, and adjustment disorders*

### Investigation of state and trait anxiety levels among pharmacy students in T.R.N.C

[Yasin Hasan Balcioglu<sup>1</sup>](#), [Erdinc Duran<sup>2</sup>](#)

<sup>1</sup>Department of Forensic Sciences, Istanbul University, Istanbul-Turkey

<sup>2</sup>Near East University, Faculty of Pharmacy, Nicosia-TRNC

e-mail address: yhasanb@hotmail.com

**Objective:** Anxiety is a complex of feelings which includes fear, worry and tension that occurs when a person faces a threatening situation or perceives a condition as a threat. In terms of psychology, anxiety is a natural response against any kind of stressor, which is an essential emotional reaction to survive. In our modern world, primitive stressors like fear of animal attacks or natural disasters leave their place to more complicated ones. Having a good job, being rich and successful in educational life and professional career, "shining" amongst class or workmates, getting appreciation or similar motives are important in people's daily life and may even cause depression or joy. Because the world gets much more populated and science amazingly evolves every day; studying in the universities gets much harder, which turns students' lives into nightmares. Particularly, it is known that students who study in faculties find it difficult to handle and get successful develop anxiety easily. Pharmacy is one of those, so we decided to investigate anxiety levels of pharmacy students categorizing each class, using two different questionnaires.

**Methods:** STAI -I and STAI - II are inventories developed by Charles Spielberger in late 60s to determine state and trait anxiety levels. Trait anxiety refers to general anxiety, while state anxiety refers to current anxiety. Because most of the students were planning to work in Turkey, some extra questions have been added to the questionnaire in the light of common problems and worries amongst pharmacists in Turkey. Thirty questions were asked to 324 students (M=192, F=132) in total. Independent samples t-test and One-Way ANOVA were applied to the original first 20 questions in each test which belong to STAI I-II and have four-graded answers; the investigators' extra questions were evaluated as a nonparametric test and Mann-Whitney U test and Kruskal-Wallis H tests were used.

**Results:** The results showed that female students have higher trait anxiety scores, while males have higher state anxiety scores. It has also found that 4<sup>th</sup> grade students have higher state anxiety scores compared to the other grades. However, 5<sup>th</sup> grade (final year) students show higher trait anxiety scores.

**Conclusion:** We need more comprehensive studies comparing different faculties' students anxiety scores using STAI I-II which may enhance our knowledge about the relation between an occupation's success and educational stress in a particular country.

**Keywords:** anxiety, inventory of anxiety, professional stress

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[Abstract:0439] *Anxiety, stress, and adjustment disorders*

### Anxiety levels of hospitalized patients in Ardahan State Hospital

[Can Sait Sevindik](#), [Mehmet Fatih Yilmaz](#)

Department of Psychiatry, Ardahan State Hospital, Ardahan-Turkey

e-mail address: campzone@hotmail.com

**Objective:** Anxiety and Depression are the most common psychiatric disorders among patients with physical diseases. Concomitant psychiatric disorders negatively effects patients' adjustment, quality of life, treatment duration, morbidity and mortality. We aim to evaluate and compare the rates of anxiety of some diseases in inpatients in Ardahan State Hospital.

**Methods:** Between November and December 2013, 196 patients hospitalized in internal branches of Ardahan State Hospital, sociodemographic form, Hospital Anxiety and Depression Scale (HADS) were used. Results were evaluated with ANOVA and Tukey HSD using SPSS v17.0

**Results:** Thirty-five Chronic Obstructive Pulmonary Disease (COPD), 33 Osteoarthritis (OA), 30 Back Pain (BP), 33 Hypertension (HT), 30 Diabetes Mellitus (DM) and 35 patients from other diseases were enrolled in the study. There were no significant differences between sexes, but OA patients were statically older. When The cut-off value was 10 for the Anxiety sub-scale, 40% of COPD, 21.2% of OA, 50% of

LP, 15.2% of HT, 33.3% of DM and 14.3% of the patients reached over 10 points. When diseases were compared to one another, COPD patients' anxiety levels were higher than HT and others, BP patients were higher than HT and others ( $p < 0.05$ ).

**Conclusion:** HADS is a safe scale for use in inpatients for physical diseases. In the literature, there is no disease comparison study, so we tested for individual ones. In our study, COPD and LP patients scored higher points. Dowson et al. found that 50% COPD patients showed clinically relevant anxiety levels with HADS. We found this rate to be 40% in our study. A study by Pallant et al. found 38.2% of outpatients with back pain scored 10 or more points in their HADS-A, while in our study we found a higher rate for BP inpatients (50%). This higher rate may be related to our older patient population or a worse pain which caused a hospitalization. Cheung et al. in their study found that 15% of hypertensive patients had more than 10 points. This is similar to our study. High rates of anxiety levels in COPD and BP patients may be a result of the vicious acute phase of the diseases and symptoms of COPD and BP may lead the clinicians to give priority to physical symptoms.

**Keywords:** anxiety, back pain, COPD

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**[Abstract:0452] Anxiety, stress, and adjustment disorders**

## Angiotensin-converting enzyme and methylenetetrahydrofolate reductase gene variations in fibromyalgia syndrome

Ahmet Inanir<sup>1</sup>, Sema Inanir<sup>2</sup>, Serbulent Yigit<sup>3</sup>, Akin Tekcan<sup>4</sup>, Ferda Alpaslan Pinarli<sup>5</sup>, Nevin Karakus<sup>6</sup>

<sup>1</sup>Department of Physical Medicine and Rehabilitation, Gaziosmanpasa University, Faculty of Medicine, Tokat-Turkey

<sup>2</sup>Department of Psychiatry, Gaziosmanpasa University, Faculty of Medicine, Tokat-Turkey

<sup>3</sup>Department of Medical Biology, Gaziosmanpasa University, Faculty of Medicine, Tokat-Turkey

<sup>4</sup>Ahi Evran University, Faculty of Health, Kirsehir-Turkey

<sup>5</sup>Department of Medical Genetics and Stem Cell Unit, Ankara Diskapi Yildirim Beyazit Training and Research Hospital, Ankara-Turkey

<sup>6</sup>Department of Psychiatry, Gaziosmanpasa University, Faculty of Medicine, Tokat-Turkey

e-mail address: sinanir@gmail.com

**Objective:** Fibromyalgia Syndrome (FM) is a common disease characterized by generalized body pain, sensitivity in certain physical areas (sensitive points), lowered pain threshold, sleep disorder, fatigue. The study aimed to determine the effects ACE I/D and MTHFR C677T gene polymorphisms in Turkish patients with FM and evaluate if there was an association with clinical features. The etiopathogenesis of FM is still not clearly known. Various viral infections, stress, living conditions, chronic sleep disorders, physical and emotional traumas, major neuro-endocrinal malfunctions as well as genetic factors are considered in the etiopathogenesis of FMS.

**Methods:** This study included 200 FM patients and 190 healthy controls recruited from the department of Physical Medicine and Rehabilitation at Gaziosmanpasa University in Tokat, Turkey. ACE I/D polymorphism genotypes were determined by using polymerase chain reaction (PCR) by specific primers. The MTHFR C677T mutation was analyzed by PCR-based restriction fragment length polymorphism (RFLP) methods.

**Results:** We found a statistically significant relation between ACE polymorphism and FM ( $p < 0.001$ , OR: 1.71, 95% CI: 1.28-2.27). However, this was not the case for ACE polymorphism and the clinical characteristics of the disease. There was also no statistically significant relation between MTHFR C677T mutation and FM ( $p > 0.05$ , OR: 1.20, 95% CI: 0.82-1.78), but dry eyes, which are among the clinical characteristics of FM, were significantly related with MTHFR C677T mutation ( $p < 0.05$ ).

**Conclusion:** Angiotensin-converting enzyme is a zinc metallopeptidase involved in blood pressure regulation via angiotensin-renin cascade, generating angiotensin II (ATII) from angiotensin I, and via degradation of the powerful vasodilator bradykinin. Several studies have also demonstrated that ACE might be involved in hypothalamic-pituitary-adrenal axis (HPA) regulation and catecholamine production and is thus required for sympathoadrenal activation during stress. The co-localization of angiotensin with dopamine-synthesizing neurons can suggest an involvement of the brain renin-angiotensin system in regulation of mood. It is suggested that ACE polymorphism is a risk factor for neuropsychiatric disturbances and related diseases. We are thinking that we must investigate the associations between ACE gene I/D polymorphism and FM. Jenkins et al. have also found that in patients with sleep disorders, which are one of the symptoms of fibromyalgia, there were considerable differences in the polymorphism of ACE gene 25-28. These patients were not diagnosed as FM. Since FM is associated with depression and sleep disorders, we investigated the relation of FM and ACE polymorphism. MTHFR mutations also cause cytokine activation. MTHFR is a key enzyme in Hcy metabolism which plays a major role in regulating endothelial function. It regulates Hcy and methionine metabolism and converts 5,10-methylenetetrahydrofolate to 5-methyltetrahydrofolate (primary form of folate in circulation). Our findings showed that there are associations of ACE I/D polymorphism



with susceptibility of a person for development of fibromyalgia syndrome. Also, an association has been determined between MTHFR C677T polymorphism and dry eyes, which are among the clinical characteristics of FM. Our study is the first report of ACE I/D and MTHFR C677T polymorphisms in fibromyalgia syndrome.

**Keywords:** fibromyalgia syndrome, MTHFR C677T, ACE I/D

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**[Abstract:0457] Anxiety, stress, and adjustment disorders**

## Quality of life among children and adolescents with congenital or acquired heart disease in Turkey

Ayşe Kutlu<sup>1</sup>, Rahmi Ozdemir<sup>2</sup>, Timur Mese<sup>2</sup>, Cem Karadeniz<sup>2</sup>, Burcu Cakaloğlu<sup>4</sup>, Utku Karaarslan<sup>5</sup>, Gokhan Ceylan<sup>3</sup>, Murat Muhtar Yilmazer<sup>2</sup>, Yilmaz Yozgat<sup>2</sup>

<sup>1</sup>Department of Child and Adolescent Psychiatry, Dr. Behcet Uz Children's Hospital, Izmir-Turkey

<sup>2</sup>Department of Cardiology, Dr. Behcet Uz Children's Hospital, Izmir-Turkey

<sup>3</sup>Department of Pediatrics, Dr. Behcet Uz Children's Hospital, Izmir-Turkey

<sup>4</sup>Department of Child and Adolescent Psychiatry, Pamukkale University, Faculty of Medicine, Denizli-Turkey

<sup>5</sup>Department of Pediatrics, Dokuz Eylul University, Faculty of Medicine, Izmir-Turkey

e-mail address: kutluayse@hotmail.com

**Objective:** Aim of this study is to measure the quality of life among children and adolescents with congenital or acquired heart disease and to evaluate the perception differences between the patients and their parents in Turkey.

**Method:** Fifty-nine patients between the ages of 8-20 from Dr. Behcet Uz Children's Hospital Pediatric Cardiology Service were enrolled in our study. Inclusion criteria were being both mentally and educationally capable of answering the questionnaire and having diagnosed congenital or acquired heart disease at least one month ago. Validated and reliable "Pediatric Quality of Life Inventory" (PQOLI) which consists of three scales (sociodemographic data form, psychosocial, total point) was used. PQOLI is a self-assessment measure and achieving greater scores is correlated with better life quality. All data were analyzed on SPSS 15.0 statistical program.

**Results:** The study group consisted of 57.6% boys and 42.4% girls. Mean age was found to be 12.58±32.05 years. 33 of the participants were between 8 to 12 and 26 between 13 to 20 years old. PQOLI and subscales of all the patients were compared in terms of gender and age; however, no statistically significant difference has been found ( $p>0.05$ ). 11.9 % of the study group had a cyanotic heart disease and the others were acyanotic. Comparing the cyanotic and acyanotic group with PQOLI revealed statistically significant differences only in the parental psychosocial health ( $p=0.009$ ) and total score ( $p=0.005$ ). 47.5% of the patients were cardiac catheterized. Regarding cardiac catheterization, except PQOLI of parental physical score all of the other parental and patient scores were found to be significantly lower ( $p<0.05$ ). 42% of the patients had undergone open heart surgery and PQOLI of these children revealed significantly lower physical scores ( $p=0.017$ ) and also total PQOLI scores of parents and patients were statistically significantly lower ( $p=0.048$ ). Patients who were under continuous drug therapy had statistically significant lower PQOLI scores at all subgroups of both parents and patients ( $p<0.05$ ) except physical health scores. Hospitalization had an effect on PQOLI. Patients without hospitalization, hospital admission 3 or less and 4 or more were compared and only the child life quality physical score was found to be statistically significant low ( $p<0.05$ ).

**Conclusion:** In our study, despite of global expectation, neither having cyanotic disease nor elder age revealed a decrease in life quality. Parents of cyanotic patients had decreased perception of PQOLI whereas the patients did not. Catheterization did not make a difference in parental physical health perception; thus we thought that patients had developed hope to be cured with catheterization. Continuous drug therapy administration and the number of hospitalizations both had statistically important negative effects on life quality; however, previous studies had never mentioned these effects. This study revealed that there were many discrepancies between patients and parents in many fields of life quality. Nowadays life quality gains importance globally, and our study is the first and pioneering one in Turkey which evaluates children and adolescents with congenital or acquired heart disease.

**Keywords:** children, heart disease, quality of life

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**[Abstract:0458] Anxiety, stress, and adjustment disorders****Quality of life among children aged 2 to 7 years with congenital or acquired heart disease in Turkey**

Rahmi Ozdemir<sup>1</sup>, Ayse Kutlu<sup>2</sup>, Timur Mese<sup>1</sup>, Cem Karadeniz<sup>1</sup>, Burcu Cakaloz<sup>4</sup>, Utku Karaarslan<sup>5</sup>, Gokhan Ceylan<sup>3</sup>, Murat Muhtar Yilmazer<sup>1</sup>, Yilmaz Yozgat<sup>1</sup>

<sup>1</sup>Department of Cardiology, Dr. Behcet Uz Children's Hospital, Izmir-Turkey

<sup>2</sup>Department of Child and Adolescent Psychiatry, Dr. Behcet Uz Children's Hospital, Izmir-Turkey

<sup>3</sup>Department of Pediatrics, Dr. Behcet Uz Children's Hospital, Izmir-Turkey

<sup>4</sup>Department of Child and Adolescent Psychiatry, Pamukkale University, Faculty of Medicine, Denizli-Turkey

<sup>5</sup>Department of Pediatrics, Dokuz Eylul University, Faculty of Medicine, Izmir-Turkey

e-mail address: kutluayse@hotmail.com

**Objective:** Aim of this study is to measure the quality of life among children aged 2 to 7 years with congenital or acquired heart disease and to evaluate the perception differences between the patients and their parents in Turkey.

**Methods:** Sixty-three patients aged 2 to 7 from Dr. Behcet Uz Children's Hospital Pediatric Cardiology Service were enrolled in our study. Inclusion criteria was being both mentally and educationally capable of answering the questionnaire for the parents and having diagnosed congenital or acquired heart disease at least one month ago. Validated and reliable "Pediatric Quality of Life Inventory" (PQOLI) consisting of three scales (sociodemographic data form, psychosocial, total point) was used. PQOLI is a self-assessment measure and achieving greater scores is correlated with better life quality. All data were analyzed on SPSS 15.0 statistical program.

**Results:** The study group consisted of 58.7% girls and 41.3% boys. PQOLI and subscales of all the patients were compared in terms of gender; however, no statistically significant difference has been found ( $p>0.05$ ). 17.5% of the study group had a cyanotic heart disease and the acyanotic were 82.5%. Comparing the cyanotic and acyanotic group with PQOLI revealed statistically significant differences only in the parental psychosocial health ( $p=0.011$ ) and the total score ( $p=0,031$ ). 60.3% of the patients were cardiac catheterized. Regarding cardiac catheterization, all parental and patient PQOLI scores were found to be significantly lower ( $p<0.05$ ). 36.5% of the patients had undergone open heart surgery and PQOLI of these children revealed significantly lower scores at all subscales ( $p=0.05$ ). Patients who were under continuous drug therapy had statistically significant lower PQOLI scores at all subgroups of both parents and patients ( $p<0.05$ ). Hospitalization also affected PQOLI. Patients without hospitalization, hospital admission 3 or less and 4 or more were compared and all PQOLI subscales were found to be statistically significantly low in the more frequently hospitalized group ( $p<0.05$ ).

**Conclusion:** As far as we know, this is the first study which enrolled children aged 2 to 7 years in the field of pediatric cardiology. In the cyanotic group there is no decrease found in children's perception of life quality whereas their parents have low scores at PQOLI. In early childhood, parental bonding and a symbiotic relation between mother and child develop, which made the parents more anxious. Also, the questionnaire was naturally not applied to the children who were 2 to 4 years old; instead it was applied only to the parents of children between 2 and 4. In contrast with many studies from outside of our country, cyanotic heart disease did not evoke a lower perception of PQOLI, whereas cardiac catheterization, open heart surgery, continuous drug administration and the number of hospitalization were issues that caused a decrease in parental PQOLI perception. We believe that this preliminary study will create a vision to serve pediatric cardiac patients in our country and will make some contribution to the literature.

**Keywords:** children, heart disease, quality of life

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**[Abstract:0584] Anxiety, stress, and adjustment disorders****Psychiatric disorders in patients with acute fractures**

Omer Ersen<sup>1</sup>, Sarper Ercan<sup>1</sup>, Abdullah Bolu<sup>2</sup>, Suleyman Akarsu<sup>3</sup>

<sup>1</sup>Erzurum Marshal Fevzi Cakmak Military Hospital, Erzurum-Turkey

<sup>2</sup>Aircrew's Health Research and Training Center, Eskisehir-Turkey

<sup>3</sup>Aksaz Naval Hospital, Mugla-Turkey

e-mail address: abduallah\_bolu@yahoo.com

**Objective:** Fractures, especially simple fractures, are often seen in patients with psychiatric disorders. These fractures usually occur in the forearms and hands. The psychiatric status of patients with fractures developed during compulsory military service was assessed in this study.

**Methods:** The data of patients who were admitted to the orthopedic outpatient clinic with acute fractures during the term January 2013 to November 2013 were examined retrospectively. Patients also admitted to the psychiatry polyclinic were included in the study and subjected to further investigation.

**Results:** Two hundred and sixteen patients with acute fractures were admitted to the orthopedic polyclinic of our hospital for the term January 2013 to November 2013. Fracture location was in the hands in 105 of these patients. 44 patients (20%) were also admitted to the psychiatry polyclinic and 5 of them had only required surgical treatment. Average psychiatric appeal was 2.4 times. 27 (61%) patients had hand fractures and 7 (15%) patients had isolated ulna fractures. The most common psychiatric diagnosis in these patients was adjustment disorder (75%). 4 patients had anxiety disorder, 1 had dissociative disorder, 1 had depressive disorder, 1 had obsessive compulsive disorder, 1 had phobia and 3 patients had no psychiatric diagnosis. 22 (50%) patients had a history of substance abuse, 15 (34%) patients had history of self-mutilation and 7 (15%) patients had a criminal record.

**Conclusion:** Hand and isolated ulna fractures are the type of fractures that can be associated with self-mutilation. These fractures are common in patients with psychiatric applications. Tendency to move away from the mandatory environment by self-harm can be seen in patients with adjustment disorder. In addition, this type of behaviors may also express impulsivity symptoms. Patients with adjustment disorder utilize immature defense mechanisms far more often compared to healthy volunteers. Actually, this situation is shown to be the reason for living adjustment problems. Personality disorders are one of the important risk factors for adjustment disorders. Especially antisocial personality disorder has an important place among these personality disorders. Generally, patients with neurotic personality traits experience more problems with adjustment. However, compulsory military service has strict rules, so individuals who have antisocial personality traits undergo more adjustment problems. In this study, the diagnosis of 75% of all patients was adjustment disorder. Also, approximately half of the patients had a history of substance abuse, which is a frequently encountered situation in many antisocial personality and adjustment disorders. All things considered, the result is that the vast majority of patients have antisocial personality traits.

**Keywords:** fractures, personality, psychiatric disorders

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**[Abstract:0634] Anxiety, stress, and adjustment disorders**

## Relationships between attitudes towards death and state and trait anxiety in a nursing student sample

[Sati Dil](#), [Burcu Coskun](#), [Zozan Sahin](#)

Cankiri Karatekin University, Faculty of Health Sciences, Cankiri-Turkey  
e-mail address: satidil@gmail.com

**Objective:** Death is a fact that is shared by all living creatures in the universe. It is one of the most important events in the lives of people which they are having to cope with. Death is experienced as a special phenomenon that is a reconstruction for emotional experience and individual suffering. Especially, nurses who have cared for dying patients and their families are feeling anxiety about death, as both their biopsychosocial life and the quality of care for patients will be affected. Therefore, it is important that during nursing education students' thoughts and attitudes towards death are investigated, the relationship between anxiety levels determined and the lack of knowledge and skills in this direction and overcome to prevent care mistakes. The purpose of this study is to examine the relationships between attitudes towards death and state and trait anxiety in a university school of nursing sample.

**Methods:** This cross-sectional study consisted of 211 nursing students. Study questionnaires were distributed to Cankiri Karatekin University School of Nursing between October and December 2014. The data of the study have been gathered through the administration of Sociodemographic Characteristics' Form, Death Attitude Scale (DAS) and State And Trait Anxiety Inventory (STAI). DAS, which was developed by Wong, Reker and Gesser (1994) was restricted to comply with Turkish Isik (2008). The Trait Anxiety Inventory was developed by Spielberger, Gorsuch and Lushene (1964) and the Turkish version was validated by Oner N, Lecompte (1983). Data were evaluated by numbers, percentages, means, standard deviations, ANOVA, Pearson's moment correlation coefficient and t-test.

**Results:** It was determined that most of the students were in the age range from 17-21, and most of the students are female (72.0%). Mean state and trait anxiety scores in the study group were  $41.3 \pm 6.7$  and  $48.2 \pm 6.8$  respectively. It was determined that the students' trait anxiety scores are higher than their state anxiety scores. We found that women experienced significantly more objection accept ( $64,61 \pm 11,47$ ) and fear of death ( $30,00 \pm 10,41$ ) than men ( $t:3,506, P:0,001$ ).

It was also seen that there were significant relationships of students' DAS sub-scale scores and STAI sub-scale scores. According to correlation analysis results, a statistically significant strong positive relationship was found between subscale of DAS and subscale of STAI; students' fear of death and avoidance of death scores ( $r:0,166; p:0,016$ ) and escape accepts scores ( $r:0,138; p:0,045$ ). Additionally, there were no significant differences in DAS and STAI levels among the study groups according to age, marital status, class, and work status,

having any illness, nor did the scores differ significantly according to gender of the students.

**Conclusion:** The levels of STAI and DAS levels of students influence are proportional to each other. Therefore, if the extent of their increased STAI levels, fear of death, avoidance of death, and death increases, visual acuity is a defense mechanism to accept an escape.

**Keywords:** attitude toward death, state and trait anxiety, nursing students

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**[Abstract:0735] Anxiety, stress, and adjustment disorders**

## Relationship of posttraumatic stress symptoms with depression, anxiety, childhood trauma and personality characteristics

[Secil Aldemir](#), [Ercan Dalbudak](#), [Merve Topcu](#)

Department of Psychiatry, Turgut Ozal University, Faculty of Medicine, Ankara-Turkey  
e-mail address: drsecilozen@gmail.com

**Objective:** Mostly patients with a history of another trauma are comorbid with other psychiatric disorders alongside posttraumatic stress disorder (PTSD). Type of trauma, demographics, personality characteristics and psychological well-being before trauma are important factors in the development of PTSD. Purpose of the current study is to study the relationship of PTSD symptoms (PTSDs) with childhood trauma and personality characteristics among patients with diagnosis of depression and anxiety.

**Methods:** A total of 130 patients who were admitted to the anxiety polyclinic and diagnosed with comorbid anxiety and depression participated in the current study. Patients were interviewed clinically and completed a socio-demographic form, Beck Anxiety (BAI) and Depression (BDI) inventories, Childhood Trauma Questionnaire (CTQ), Post-traumatic Stress Disorder Checklist-civilian version (PTSDC-CV) and Eysenck Personality Questionnaire Revised/Abbreviated Form (EPQR-A). Patients were classed into two group, namely, PTSD low (PTSDl) and PTSD high (PTSDh) risk according to the PTSD checklist cut-off point. Spearman correlation analysis was chosen to compose correlation coefficients of variables. PTSDl and PTSDh group means were compared across anxiety, depression, childhood trauma, and personality characteristics variables. For mean comparison, Mann-Whitney U test was conducted. Lastly logistic regression was run to predict group classification for the two groups. Analysis was conducted in two steps. In the first step, anxiety and depression were entered. In the second step, subscale scores of CTQ (emotional and physical neglect, emotional, physical and sexual abuse) and EPQR-A (neuroticism, extraversion, psychoticism and lying) were added into the analysis.

**Results:** 39.3% (n=53) of a total of 130 patients reported at least one history of a traumatic experience. Correlation analysis revealed that as PTSDs scores were significantly and positively correlated with anxiety and depression scores, the scores were negatively correlated with extraversion and emotional neglect. In terms of PTSDs, those with a history of trauma were separated into PTSDl and PTSDh groups according to a cut-off point of 51. Mean comparison concluded that the PTSDl and PTSDh groups were significantly different from each other in terms of anxiety and depressive symptoms, neuroticism, physical abuse and neglect. Logistic analysis revealed that firstly depressive symptoms and additionally physical abuse significantly predicted PTSDh group membership.

**Conclusion:** Literature findings revealed that trauma experience before the age of 15, inadequate social support, predisposition to psychiatric disorders, previous psychiatric history of anxiety and depression and separation from family before age 10 increase the risk of PTSD. Correspondingly, the current study determined that PTSDs are correlated with anxiety and depressive symptoms and physical abuse and neglect. Also it was suggested that personality and age can be individual factors that may lead to PTSD. Positive correlation found between neuroticism and PTSDs supports the previous findings. It can be concluded that patients with a diagnosis of comorbid anxiety and depressive disorders should be studied further in terms of personality characteristics and childhood trauma that may prognosticate PTSD. Also, PTSDs should be considered among these patients to adapt their treatment.

**Keywords:** childhood trauma, personality, posttraumatic stress disorder

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**[Abstract:0806] Anxiety, stress, and adjustment disorders****Evaluation of consultations of children and adolescents with type 1 diabetes**[Senay Celenay, Serpil Eremis, Tezan Bildik, Burcu Ozbaran](#)

Department of Child and Adolescent Mental Health and Diseases, Ege University, Faculty of Medicine, Izmir-Turkey  
 e-mail address: senaycelenay@hotmail.com

**Objective:** In this study, we aimed to evaluate socio-demographic properties, diagnoses and drug use of children and adolescents with type 1 diabetes.

**Methods:** The records of 21 patients, admitted to Ege University Faculty of Medicine Children's Hospital Pediatric Endocrinology Department and consulted by Child and Adolescent Psychiatry were evaluated.

**Results:** The majority (61.9 %) of the patients were female and the mean age of the subjects was  $14.6 \pm 3.2$ . The majority (66.7 %) of the patients had depressive symptoms and were under antidepressant treatment.

**Conclusion:** Psychiatric disorders are commonly seen in children and adolescents with type one diabetes. These patients mostly use antidepressant treatment.

**Keywords:** child and adolescent, psychiatric disease, type 1 diabetes

**Bulletin of Clinical Psychopharmacology 2015;25(Suppl. 1):S99**

**[Abstract:0845] Anxiety, stress, and adjustment disorders****Stress coping strategies of nurses working in the psychiatry clinic**[Kiyem Saricay, Ayse Nur Inci Kenar](#)

Department of Psychiatry, Pamukkale University, Faculty of Medicine, Denizli-Turkey  
 e-mail address: kiyem\_ceren@hotmail.com

**Objectives:** To compare the stress coping strategies of nurses working in the psychiatry clinic according to the nurses working in clinics for chronic diseases such as oncology and hemodialysis.

**Methods:** Thirty-four nurses working in the psychiatry clinic (study group) and 39 nurses (control group) working in the clinics of chronic diseases (oncology and hemodialysis) were included into the study. Sociodemographic data form, "The Ways of Coping Questionnaire" (WCQ), Hamilton Depression Scale (HAM-D) and Hamilton Anxiety Scale (HAM-A) were performed to both groups. "The Ways of Coping Questionnaire" has five subgroups as follows: seeking social support, helpless approach, optimistic approach, self-confident approach and subservient approach. Items of 8, 10, 14, 16, 20, 23, 26 are in the self-confident approach, items of 2, 4, 6, 12, 18 are in the optimistic approach, items of 3, 7, 11, 19, 22, 25, 27, 28 are in the helpless approach, items of 5, 13, 15, 17, 21, 24 are in the subservient approach, items of 1, 9, 29, 30 are in the seeking social support.

**Results:** Mean age was  $41.76 \pm 7.40$  in the study group and  $32.18 \pm 9.44$  in the control group. Although HAM-D Scale scores were under 7 in both groups, HAM-A Scale score was  $9.18 \pm 9.16$  in the study group and  $8.49 \pm 7.84$  in the control group. But the difference between the HAM-A scores in both groups was not statistically significant ( $p < 0.05$ ). The difference between the two groups in terms of total scores of WCQ (in the study group  $42.97 \pm 11.44$ ; in the control group  $42.82 \pm 7.20$ ) and scores of seeking social support (in the study group  $7.35 \pm 2.24$ ; in the control group  $7.05 \pm 2.03$ ), helpless approach (in the study group  $8.26 \pm 3.50$ ; in the control group  $8.56 \pm 4.19$ ) and optimistic approach (in the study group  $8.50 \pm 3.81$ ; in the control group  $8.97 \pm 2.56$ ) subgroups were not statistically significant ( $p < 0.05$ ). While the score of self-confident approach subgroup was higher in the control group (in the study group  $12.82 \pm 4.90$ ; in the control group  $13.51 \pm 3.72$ ), the score of subservient approach subgroup was higher in the study group (in the study group  $6.00 \pm 2.73$ ; in the control group  $4.97 \pm 3.28$ ), but the differences between the groups were not found statistically significant ( $p < 0.05$ ).

**Conclusion:** No significant difference was found between the nurses working in the psychiatry clinic and the nurses working in the clinics for chronic diseases in terms of stress coping strategies. However, it is remarkable that nurses working in psychiatry clinic use the self-confident approach less and the subservient approach more.

**Keywords:** stress, styles of coping, nursing

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**[Abstract:0858] Anxiety, stress, and adjustment disorders****Acute Agomelatine administration has no inhibitory effect on NLRP3 inflammasome activation and pro-inflammatory cytokines induced by sub-chronic restraint stress in prefrontal cortex of rats**Ceren Sahin<sup>1</sup>, Ozgur Albayrak<sup>2</sup>, Gulderen Yanikkaya Demirel<sup>2</sup>, Demet Sinem Guden<sup>3</sup>, Feyza Aricioglu<sup>1</sup><sup>1</sup>Department of Pharmacology and Psychopharmacology, Marmara University, Faculty of Pharmacy, Istanbul-Turkey<sup>2</sup>Department of Immunology, Yeditepe University, Faculty of Medicine, Istanbul-Turkey<sup>3</sup>Department of Pharmacology, Mersin University, Faculty of Pharmacy, Mersin-Turkey

e-mail address: feyzaaricioglu@gmail.com

**Objective:** NLRP3 inflammasome, a multiprotein complex that is located in immune system cells such as macrophages and microglia is formed by the activation of Nod-like receptor protein 3 (NLRP3) via danger signals including stress and is responsible initiating IL-1 $\beta$  and IL-18-mediated inflammatory responses. Since the involvement of cytokine mediated inflammatory responses are well established in depression and stress, the importance of the initiator mechanisms of inflammatory responses have recently been put forward (1). There are promising findings suggesting that the activation of NLRP3 might be interrelated with stress related conditions and inhibition of NLRP3 activation would stand for a novel therapeutic target. Herein, we investigated the effect of Agomelatine (Ago), a new antidepressant acting as an melatonergic receptor agonist and 5-HT<sub>2C</sub> receptor antagonist with reported immunomodulatory activities (2), on NLRP3 inflammasome activation in a sub-chronic restraint stress model of rats.

**Methods:** Sprague-Dawley rats weighing 250-350 g were divided into three groups; Control, Stress and Ago+Stress (40 mg/kg; p.o.) (n=6-8 in each). Rats were subjected to restraint stress using immobilization cages between 08:00 am-12:00 am (4 hours/day) for 7 consecutive days except the control group. Ago was administered via intragastric gavage on the last two consecutive days (Day 6 and 7) and 60 min before the stress procedure. Rats were sacrificed at seventh day immediately after the last stress procedure. Rats' prefrontal cortex was removed following brain dissection for investigating the NLRP3 inflammasome components and relevant cytokines. qPCR and flow cytometer were used for gene and protein expression analysis, respectively. Statistical analysis was conducted using one-way ANOVA followed by Tukey's test and p<0.05 value was considered as statistically significance.

**Results:** In stress group, NLRP3, caspase-1, NF- $\kappa$ B, IL-1 $\beta$  and IL-18 gene expressions levels were significantly increased compared to control group. Acute Ago administration did not show any decreasing effect over these components. Moreover, NLRP3 (2 fold), caspase-1 (3 fold), NF- $\kappa$ B (4 fold) and IL-18 (3 fold) gene expressions were even higher in Ago+Stress group than stress alone. Similarly, protein expression analysis of pro-inflammatory cytokines including IL-1 $\beta$ , IL-6, TNF- $\alpha$  and IL-18 revealed that stress increased the protein levels of these cytokines however, those levels remained high in Ago+Stress group.

**Conclusions:** According to our preliminary data, acute administration of Ago was not effective on inhibiting NLRP3 inflammasome and relevant pro-inflammatory cytokines induced by sub-chronic restraint stress. Rather, it activated the majority of the NLRP3 components. The activity of melatonergic receptors has been previously reported to be associated with inflammatory processes by a number of studies. However, there is no consensus at present on whether this modulatory effect of melatonergic receptors is negative or positive. Further investigations are needed in order to examine the effect of chronic administration of Ago on NLRP3 inflammasome mediated inflammatory mechanisms in chronic stress conditions.

This study was supported by Scientific Research Project Unit of Marmara University (SAG-E-120613-0233).

**Keywords:** Agomelatine, NLRP3, stress

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**[Abstract:0880] Anxiety, stress, and adjustment disorders****Acute administration of ketamine inhibited stress induced pro-inflammatory cytokines in hippocampus of rats**Gokhan Unal<sup>1</sup>, Gokhan Terzioglu<sup>2</sup>, Ceren Sahin<sup>1</sup>, Gulderen Yanikkaya Demirel<sup>2</sup>, Feyza Aricioglu<sup>1</sup><sup>1</sup>Department of Pharmacology and Psychopharmacology, Marmara University, Faculty of Pharmacy, Istanbul-Turkey<sup>2</sup>Department of Immunology, Yeditepe University, Faculty of Medicine, Istanbul-Turkey

e-mail address: feyzaaricioglu@gmail.com

**Objective:** Major depression is a complex and devastating disease which one-third of patients still do not respond to current treatments. It has been demonstrated that there is a correlation between high levels of plasma cytokines such as IL-1 $\beta$ , IL-6, IL-18 and TNF- $\alpha$  and depression. Also it has been verified that the reduction in plasma cytokine levels accompanied with antidepressant medication and certain immune suppressant drugs were able to show antidepressant-like effect (1). Ketamine, a noncompetitive glutamatergic NMDA receptor antagonist with proven rapid antidepressant action in sub-anesthetic dose, has recently been proposed to have anti-inflammatory properties (2,3). Herein, we aimed to shed light on the effect of acute administration of ketamine on pro-inflammatory cytokines in sub-chronic restraint stress model in rats.

**Methods:** Sprague-Dawley rats weighing 250-350 g were divided into control, stress and stress+ketamine (10 mg/kg; i.p.) groups (n=6-7 in each). Stress groups were subjected to restraint stress (4 hours/day) for 7 days. Ketamine was administered on Day 7 and 30 min before the stress procedure. Rats were sacrificed after the last stress procedure. Hippocampus and prefrontal cortex (PFC) were dissected for investigating the gene expressions of pro-inflammatory cytokines. qPCR was conducted for gene expression assays for TNF- $\alpha$ , IL-1 $\beta$ , IL-6 and house-keeping gene GAPDH with standard annealing temperatures of 60°C. Data was normalized to GAPDH Cycle Threshold (CT) and it was calculated by log<sub>2</sub> transformation and quantified by 2<sup>-ddCT</sup> relative quantification method. Statistical analysis was done by one-way ANOVA with p<0,05 value as significance.

**Results:** In stress group, gene expressions of TNF- $\alpha$ , IL-1 $\beta$  and IL-6 were significantly increased in hippocampus compared with control group and those increased levels induced by stress were down regulated by a single dose of ketamine. On the other hand, in the PFC, stress caused a significant increase only TNF- $\alpha$  levels while the elevation in IL-1 $\beta$  and IL-6 levels was not statistically significant. Likewise, ketamine administration did not reduce the cytokines levels in PFC. Moreover, there was a tendency of an increase in PFC IL-1 $\beta$  and IL-6 levels in ketamine+stress group when compared to stress alone.

**Conclusions:** The results of our study showed that sub-chronic restraint stress induced the levels of pro-inflammatory cytokines in brains of rats. However, one should note that the increase in all cytokine levels was significant only in the hippocampus. Ketamine markedly reduced the elevation of these pro-inflammatory cytokines in the hippocampus but failed in the PFC. However, it is noteworthy to emphasize that stress itself failed to increase the all cytokine levels in PFC. Therefore, ketamine's anti-inflammatory like effect found in our study which seems to be restricted to the hippocampus could be misleading when considering the data of PFC. In conclusion, the chronic effect of ketamine from the aspects of modulating inflammatory processes should be investigated in further studies.

This study was supported by Scientific Research Project Unit of Marmara University (SAG-E-120613-0233).

**Keywords:** ketamine, cytokines, stress

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## AUTISM SPECTRUM DISORDERS

[Abstract:0112] *Autism spectrum disorders*

### Vitamin D3 levels in children with autism spectrum disorders

[Cagatay Ugur<sup>1</sup>](#), [Cihat Kagan Gurkan<sup>2</sup>](#)

<sup>1</sup>Ankara Pediatric Hematology Oncology Training and Research Hospital, Ankara-Turkey

<sup>2</sup>Department of Child and Adolescent Psychiatry, Ankara University, Faculty of Medicine, Ankara-Turkey

e-mail address: drcagatay85@gmail.com

**Objective:** In this study, it is aimed to define serum levels of vitamin D3, calcium (Ca), phosphorus (P), alkaline phosphatase (ALP) and folate in young children with Autism Spectrum Disorders (ASD), to compare them with those of normal controls and to explore the association between these serum values and the severity of problem behaviors, ASD symptom severity, and level of cognitive development.

**Method:** All participants (n=54) were assessed by a child and adolescent psychiatry specialist according to DSM-IV-TR criteria, and patients with the diagnosis of Autistic Disorder (AD) and Pervasive Developmental Disorder-Not Otherwise Specified (PDD-NOS) were included in the study. None of the patients fulfilled the criteria for Asperger Syndrome (AS). All of the participants were interviewed and sociodemographic form and the Aberrant Behavior Checklist (AbBC) were administered. The Autism Behavior Checklist (ABC), Childhood Autism Rating Scale (CARS) and developmentally appropriate screening or IQ tests were administered to ASD patients. Besides, Vitamin D3, Ca, P and ALP levels of all participants were calculated at biochemistry and endocrinology laboratories of our university hospital from March 2013 to September 2013. Chi-square test, t test and correlation analyses were used to evaluate the data.

**Results:** In 29.6% of the children with ASD and 38.9% of the normal children, Vitamin D3 deficiency was detected; however, the difference was not statistically significant between the groups. No statistically significant differences were detected between levels of Vitamin D3, Ca, P, ALP and folate in children with ASD compared to those of controls. The correlational analysis in children with ASD revealed that AbBC, ABC, CARS scores were not correlated with biochemical and endocrine laboratory results.

**Discussion:** The results of the study showed that Vitamin D3, Ca, P, ALP and folate levels in 3 to 8-year-old children with ASD were not different from normal controls. The routine screening of Vitamin D3 levels in 3 to 8-year-old children with ASD does not seem to be feasible. In future studies, defining Vitamin D3 levels in cord blood or in the perinatal period and prospectively following up children may generate different results.

**Keywords:** autism spectrum disorders, Vitamin D3, folate

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[Abstract:0286] *Autism spectrum disorders*

### Mean platelet volume in children with autism spectrum disorder: preliminary study

[Recep Bostan](#), [Berna Polat](#), [Veli Yildirim](#), [Fevziye Toros](#)

Department of Child and Adolescent Psychiatry, Mersin University, Faculty of Medicine, Mersin-Turkey

e-mail address: dr.recebostan@gmail.com

**Objective:** Autism spectrum disorder (ASD) is a neurologically-based developmental disorder which appears in childhood. Mean platelet volume (MPV), the correct measure of platelet size, has been regarded a marker and determinant of platelet function. Aim of the present study is to research MPV in children with ASD and healthy subjects. It was hypothesized that children with ASD have increased MPV levels, compared to healthy controls.

**Methods:** Forty-nine drug naive children with ASD, aged 1–15, who were admitted to the child and adolescent psychiatry department at Mersin University and diagnosed with ASD according to the DSM-IV (Diagnostic and Statistical Manual of Mental Disorders, 4<sup>th</sup> edition) criteria were included in this study. Eighty-seven mentally and physically healthy subjects were enrolled as a control group. The MPV were measured in children with ASD, and compared with healthy controls. Measures of MPV in the children with ASD and the control subjects were compared by using independent sample t-test and Mann Whitney U test. Statistical significance was set at  $p < 0.05$ . All statistical analyses were conducted on SPSS version 11.5.

**Results:** There was no significant difference in age of the children between the ASD group (mean:  $4.9 \pm 3.1$ ) and the normal control group



(mean:  $5.9 \pm 2.9$ ). The ASD group consisted of 13 girls and 36 boys and the control group included 39 girls and 48 boys. No significant difference was found in the girls/boys ratio between the two groups ( $p > 0.05$ ). There was no significant difference in MPV ( $p = 0.422$ ) between the groups ( $p > 0.05$ )

**Conclusion:** Evidence from clinic based studies and nationally representative surveys suggests that children with developmental disabilities, including with ASD, have a prevalence of obesity at least as high as, if not higher than, their typically developing peers. Obesity in children carries a wide range of serious complications and contributes to an increased prevalence of cardiovascular risk factors in very early pediatric age. Evidence has emerged from numerous large-scale studies indicating that elevated MPV is a cardiovascular risk factor. A large proportion of the increased mortality observed in schizophrenia is associated with an increase in cardiometabolic risk. A recent cross-sectional study showed raised MPV in patients with schizophrenia, particularly in patients exposed to atypical antipsychotics. However, our findings show no significant difference for drug-naive children with ASD.

**Keywords:** autism spectrum disorder (ASD), cardiovascular risk, mean platelet volume (MPV)

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### [Abstract:0605] *Autism spectrum disorders*

## Parental reasons for and attitudes towards having another child after an earlier child manifests autism spectrum disorder

[Seda Erbilgin, Murat Coskun](#)

Department of Child and Adolescent Psychiatry, Istanbul University, Faculty of Medicine, Istanbul-Turkey  
e-mail address: sedaerbilgin@gmail.com

**Objective:** Autism Spectrum Disorders (ASDs) are relatively common neuro-developmental disorders characterized by deficits in reciprocal social interaction and communication, along with the presence of restricted, repetitive and stereotyped interests and behaviors. ASD affect all areas of life by making serious impairment, and care giving for the affected children is an exhausting, overwhelming and enduring process. In developed countries, families have the tendency to halt reproduction after the diagnosis of a child with ADS and usually do not have another child. Although studies have not been presented on this subject, our clinical observations suggest that in our country families look more positively towards having another child compared to developed countries. In this study, we aimed to investigate reasons and attitudes of parents who already have a child with ASD to having another child.

**Methods:** The sample included 77 patients (18 females, 59 males) with an age range of 5 to 20 years old who were diagnosed ASD and had a later-born sibling. A questionnaire designed by the authors was administered to the parents. We asked whether their previous child was diagnosed ASD or they had an awareness of their children's a problem when they planned or gave birth to the later child. We asked them to mark any of a number of given reason(s) that was/were closer to the way they thought.

**Results:** In 36% of the subjects ( $n=28$ ), the child with ASD had not yet received a diagnosis or the parents had not suspected or known about ASD in the previous child when they had the later pregnancy or birth. In the remaining 64% of the subjects ( $n=49$ ), the child with ASD had been diagnosed with ASD and the parents knew that they had a child with ASD when they had the pregnancy or gave birth to the later child. 10 of those 49 parents stated that the later pregnancy was unexpected or unplanned. 39 parents stated that they decided to have another child after a child with ASD for the following reasons: 'To make friendship with his/her affected older sibling' ( $n=13$ ; 33%), 'To have a healthy child' ( $n=8$ ; 20%), 'To help nursing his/her sibling with ASD' ( $n=7$ ; 17%), 'To have a child of a different sex' ( $n=2$ ; 5%), 'Health professional's recommendation' ( $n=3$ ; 7%), 'Grandparents/relatives' wishes and insistence' ( $n=1$ ; 2%), and 'Other reasons' ( $n=3$ ; 7%)

**Conclusion:** We found that the most important motivation for parents to have another child after a child has been diagnosed with ASD is to make friendship with his/her elder sibling. Other frequent reasons include the expectation that the younger sibling would take care of their older sibling with ASD after the parents die or get old and the desire to have a healthy child. Having another child after one with ASD could be a hard decision for the families, when the responsibility of taking care to a child with ASD, emotional and economic burden and the significant increase of the recurrence risk of having another child with ASD compared to the normal population are taken into consideration. There is limited data on this subject in the literature and further investigations with larger samples may be required.

**Keywords:** autism spectrum disorders, later-born sibling, parental attitudes

**Bulletin of Clinical Psychopharmacology 2015;25(Suppl. 1):S103**

**[Abstract:0620] Autism spectrum disorders****Behavioral problems in preschool and school-aged autism spectrum disorder children; associations with parent functional and psychological health: preliminary study**[Armagan Aral](#), Mirac Baris Usta, Tolga KaraosmanOndokuzmayis University, Samsun-Turkey  
e-mail address: armiaral0@gmail.com

**Objective:** Recently, higher numbers of younger children are being diagnosed with Autism Spectrum Disorder (ASD). Thus, factors that influence parenting stress in younger ASD need to be indicated in older children. Therefore, accessible targets for interventions can be modified. Based on existing literature we hypothesized that preschool aged ASD children have more problems about sleep latency, bed time resistance and night waking. Additionally we aimed at disentangling the precipitation of behavior problems and sleep habits on caregivers' overall psychological well-being in families of ASD children.

**Methods:** In this preliminary study, 30 family of children with ASD and 30 families of typically developing children completed Children's Sleep Habits Questionnaire (CSHQ) and Short Form-36. Parents of ASD children also completed Aberrant Behavior Checklist (ABC). The ASD group was composed of 17 preschool and 13 school-aged children, which have no mood disorder. SCL-90 was administered for mothers and fathers of the sample and the community group. Families were included if they had a child aged between 3 and 11 years. For both groups exclusion criteria was the presence of a family member with neurodevelopmental and mood disorder treatment history. Also, none of the ASD children have a mood disorder history.

**Results:** Parents of ASD have a poorer total SF-36 score and physical functioning and higher physical and emotional limitations than controls ( $p=0.01$ ). Unlikely fathers, mothers have a lower score on 3 domains of SF-36 in comparison with controls ( $p=0.02$ ). Total SF-36 score has a significant correlation for all domain of ABC, the most prominent one being social withdrawal for both parents. Mothers' total SF-36 was scores poorer than fathers' ( $p=0.05$ ), contrary to the community group.

The whole ABC subscales scores have a positive relation with bedtime resistance, the most powerful ones being social withdrawal and hyperactivity, respectively. Total CSHQ scores are most related with social withdrawal, also hyperactivity has a positive correlation with this variable. In school-aged patients, daytime sleepiness scores are higher ( $p=0.01$ ), while self-injurious behavior is prevalent in the preschool period ( $p=0.038$ ). Apart from that, the total CSHQ scores are similar between age groups and in bivariate analysis which takes into consideration all ages. Between age groups, the total SF-36 score is significantly higher in school-aged in fathers.

**Conclusion:** One of this study's core points is to examine the difference in life quality between fathers and mothers of children with ASD. The results in these studies indicated that mothers tend to have lower life quality levels compared to fathers in the ASD group. Both sets of ratings indicated that behavior problems were strongly associated with parent quality of life. Social withdrawal is the greatest contributing factor. This trait seems to be in relationship with bedtime resistance. As opposed to our hypothesis, ASD's subscale and total CSHQ scores are similar between age groups except for daytime sleepiness. Finally, we need prospective data to understand the connection between behavior problems, parental stress and sleep habits over time.

**Keywords:** autism, behavior problems, parents life quality

**Bulletin of Clinical Psychopharmacology 2015;25(Suppl. 1):S104**

**[Abstract:0623] Autism spectrum disorders****Child sleeping behaviors that influence sleep problems in parents of children with autism spectrum disorder: preliminary study**[Armagan Aral](#), Abdullah Bozkurt, Mirac Baris UstaOndokuzmayis University, Samsun-Turkey  
e-mail address: armiaral0@gmail.com

**Objective:** The main purpose of this study was to characterize the child's aberrant and sleep behaviors that affect sleep quality and problems in parents of children with autism spectrum disorders (ASD). We hypothesized firstly, when ASD's increased stereotypic and self-injurious behaviors exist, parents' sleep problem severity increased. Second, child problem sleep habits, especially bedtime resistance,

affect mothers more frequently because mothers participate more in sleeptime rituals of their child. Additionally, we compare sleep quality and disturbances between parents of children with ASD and typically developing (TD) children.

**Methods:** In this preliminary study, 30 families of children with ASD and 30 families of TD children completed Children's Sleep Habits Questionnaire (CSHQ). Fathers and mothers of children completed Pittsburgh Sleep Quality Index (PSQI), individually. Additionally, parents of ASD children completed Aberrant Behavior Checklist (ABC). Families were included if they had a child aged 3 to 11 years. For both groups, exclusion criteria was the presence of a family member with neurodevelopmental and mood disorder treatment history. Also, none of the ASD children have a mood disorder history.

**Results:** In the present investigation, diagnoses for children with ASDs were composed of Autism (n=22), Asperger Syndrome (n=3), and Pervasive Developmental Disorder not Otherwise Specified (PDD-NOS) (n=4). According to Pearson bivariate correlation analysis, stereotypic behavior has positive correlations with PSQI sleep disturbances score of the ASD child's mother and father, father's sleep latency and total score ( $p=0.05$ ). Lethargy/Social Withdrawal behavior and irritability have positive correlations with father's sleep disturbances score ( $p=0.05$ ). The comparison of the father's and mother's sleep problems have only significant difference in subscale scores where sleep latency and daytime functioning in mothers are higher than we expected. In comparison with the community group, ASD mothers have a significantly higher PSQI total score and five subscales of PSQI. Fathers have only one significant difference, in subjective sleep quality scores.

**Conclusion:** Contrary to the hypothesis, there is no relationship between any aberrant behavior and parents' sleep, except for fathers' total PSQI score and stereotypic behaviors. Stereotypic behaviors also have a correlation with fathers' sleep latency and disturbances and mothers' sleep disturbances. As we expected, ASD parents have poorer subjective sleep quality compared to TD parents. While unexpected, fathers' total score and subscales score were similar between the two groups. Fathers' stressors (work schedule and smoking) may have a huge impact on this situation.

Scores on CSHQ of ASD children show that mothers' subjective sleep quality is mostly affected by bedtime resistance, sleep anxiety, and actual sleep time, respectively, whereas fathers are only affected by bedtime resistance. The results of the study confirm that when bedtime resistance behaviors are present in children with autism, they have a greater impact on parents' sleep, mostly mothers, than when the same behaviors are present in typically developing children. Furthermore, we suggest that future studies should include measures about reasons for the special bedtime resistance and other contributing factors.

**Keywords:** autism, parents, sleep behaviors

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### [Abstract:0786] *Autism spectrum disorders*

## Reassessment of pervasive developmental disorder-'not otherwise specified cases' outcomes according to DSM IV-TR criteria

Sezen Kose, [Binay Kayan](#), Fevzi Tuna Ocakoglu, Nazli Burcu Ozbaran, Cahide Aydin

Department of Child and Adolescent Psychiatry, Ege University, Faculty of Medicine, Izmir-Turkey  
e-mail address: dr.binaykayan@gmail.com

**Objective:** Autism Spectrum Disorders (ASD) are developmental disorders characterized by deficits in social relating, communication impairments, and the presence of restricted interests and stereotyped behaviors. The issue of diagnostic stability and course in the field of autism and disorders of this spectrum has become an increasing focus of research. Studies in this field are found inadequate in our country. The purpose of this study is an evaluation 4 years later according to DSM IV-TR criteria of patients who had been diagnosed as PDD-NOS between ages 0-6.

**Methods:** In this study, patients between ages 0-6 are included who in the year 2010-2011 had been diagnosed with PDD-NOS by Ege University Disabled Health Committee. Kiddie-Schedule for Affective Disorders and Schizophrenia (SADS) is administered to every participant in the study. All participants are diagnostically reevaluated with a questionnaire form examining Pervasive Developmental Disorders (PDD) diagnosis criteria based upon DSM IV-TR. In addition, Children Autism Rating Scale (CARS) is administered to every participants in the study; Aberrant Behavior Checklist (ABC) was completed with their parents.

**Results:** Parents of 28 out of 150 patients diagnosed by the committee accepted to participate voluntarily in the study and they were reevaluated. Patients of this study were 23 boys and 5 girls. The mean age of the children at the time of first diagnosis was 3.79 years ( $SD=1.22$ ), and at present 8.18 years ( $SD=1.80$ ). After reevaluation, 14 of the 28 (50%) children who were initially diagnosed with a PDD-NOS diagnosis retained the same diagnosis, 11 (39.3%) children moved to an AD diagnosis, 1 (3.6%) child moved to an Asperger

Disorder diagnosis and 2 (7.1%) children went off the spectrum. In these non-PDD diagnosis children no psychiatric diagnosis is detected. Comorbidity rate was 42.9% of participants according to KSAD-S interview in the reevaluation. In PDD-NOS group comorbid psychiatric disorder rate was found 35.7%, in the AD group the comorbid psychiatric disorder rate was found 54.5%. ADHD and Learning disability were diagnosed by clinical assessment for the case with Asperger Disorder. The mean CARS and ABC scores of the group remaining with PDD-NOS diagnosis were found 23.64 (SD=4.58) and 25.5 (SD=26.97) respectively. The mean CARS and ABC scores of the AD group were found 32.15 (SD=8.13) and 34.4 (SD=22.51) respectively. In the group that left the PDD diagnosis, the mean CARS and ABC scores were found as 18.25 (SD=2.47) and 21 (SD=16.97), respectively.

**Conclusion:** It was observed that 7.1% of patients diagnosed with PDD-NOS under the age of 6 years were found to be off the ASD spectrum after the evaluation performed 4 years after the first diagnosis. 42.9% of the patients moved to another PDD diagnosis. The results of our study and the present literature were found consistent. We consider that it would be convenient to support these findings with other studies in Turkey, by increasing the sample size.

**Keywords:** autism spectrum disorders, diagnosis stability, prognosis

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## BIOLOGICAL PSYCHIATRY AND NEUROSCIENCE

### [Abstract:0149] Biological psychiatry and neuroscience

#### Is the neutrophil-to-lymphocyte ratio indicating inflammation in bipolar disorder?

Ahmet Unal<sup>1</sup>, Esen Savas<sup>2</sup>, Zeynel Abidin Sayiner<sup>2</sup>, Gokay Alpak<sup>1</sup>, Bahadir Demir<sup>1</sup>, Hilal Kaya<sup>1</sup>, Zeynel Abidin Ozturk<sup>2</sup>

<sup>1</sup>Department of Psychiatry, Gaziantep University, Faculty of Medicine, Gaziantep-Turkey

<sup>2</sup>Department of Internal Medicine, Gaziantep University, Gaziantep-Turkey

e-mail address: drahmetunal@hotmail.com

**Objective:** Neutrophil-to-lymphocyte ratio (NLR) has been shown to be a useful marker of inflammation in many inflammatory diseases. NLR may be a useful marker to determine an inflammatory state during Bipolar Disorder (BD) episodes. The aim of the current study is to determine the inflammation during BD episodes, using NLR as an indicator of inflammation.

**Methods:** 157 patients with bipolar disorder were included in this cross-sectional study. The NLR was calculated from the differential count, dividing the absolute neutrophil count by the absolute lymphocyte count. Inclusion criteria for neutrophil and lymphocyte counts were being in the 2500-7500/mm<sup>3</sup> and 1500-3500/mm<sup>3</sup> interval, respectively. Patients with end stage renal disease, malignant diseases, severe liver failure, active infection diseases, and active smoking were excluded from the study.

**Results:** NLR levels were highest in patients with manic episode and lowest in the control group (2.68±1.27, 1.82±0.65). ESR and CRP levels of manic patients were significantly higher than other groups (p=0.261, p=0.199).

**Conclusion:** NLR during periods of mania is higher than during depression and euthymic periods of the BD. It is possible to say that the degree of the inflammation during the period of disease could be different, and exacerbation of inflammation during the period of mania in BD could explain systemic cardiovascular comorbidities of disorder.

**Keywords:** bipolar disorder, inflammation, neutrophil lymphocyte ratio

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### [Abstract:0444] Biological psychiatry and neuroscience

#### Platelet volume variation in major psychiatric disorders

Murat İlhan Atagun<sup>1</sup>, Sukru Alperen Korkmaz<sup>1</sup>, Caglar Soykan<sup>1</sup>, Serdar Suleyman Can<sup>1</sup>, Semra Ulusoy Kaymak<sup>2</sup>, Ali Caykoylu<sup>1</sup>

<sup>1</sup>Yildirim Beyazit University, Faculty of Medicine, Ankara-Turkey

<sup>2</sup>Ankara Ataturk Training and Research Hospital, Ankara-Turkey

e-mail address: dr.alperen88@gmail.com

**Objective:** Mean platelet volume (MPV) is one of the indicators of platelet function. Changes in platelet function have been reported in many psychiatric disorders. Increased intra-platelet calcium mobilization, upregulation of 5-HT<sub>2</sub> receptors or  $\alpha$ 2-adrenoreceptors, down-regulation of 5-HT transporter number, changes in second messenger signal transduction and intra-platelet concentrations of monoamines or catecholamines are some potential underlying factors. Psychotropic medications could also be one of the main factors of altered platelet volumes. It was aimed to compare MPVs of different psychiatric disorders in order to find out whether this effect is due to medications in this study. Since treatment regimes of these disorders vary, differences between groups may show the effects of medications on MPV.

**Methods:** Records of the first hemogram tests (CBC) of the patients (n=954) admitted to the psychiatry outpatient unit of the psychiatry department of Ankara Ataturk Training and Research Hospital were obtained. According to ICD-10, patients with depressive disorders (n=389), bipolar disorders (n=338) and psychotic disorders (n=227) were included in the study. Mean platelet volume (MPV), platelet distribution width (PDW), platelet count (PLT), leukocyte count (WBC) and erythrocyte count (RBC) were obtained from laboratory records. Groups were compared with One-way ANOVA test. Tamhane and Bonferroni tests were the post-hoc tests.

**Results:** Statistically significant differences were found between age (F(2,953)=11.31, p=0.000014), gender (p=0.000103,  $\chi^2=23.44$ ), platelet count F(2,953)=3.45, p=0.032, leukocyte count F(2,953)=461,01, p<0.0000001 and erythrocyte count F(2,953)=351.11, p<0.0000001. There were no significant differences between MPV F (2,953)=2.29, p=0.102 and PDW F(2,953)=1.29, p=0.277. Platelet count was significantly higher in the bipolar disorders group (260.03+66.66 K/ $\mu$ L) than the depressive disorders group (247.30+67.30

K/L). Leukocyte count of the depressive disorders group ( $7.88 \pm 2.28$  K/ $\mu$ L) was significantly higher than bipolar disorders ( $4.83 \pm 0.56$  K/ $\mu$ L) and psychotic disorders ( $4.93 \pm 0.46$  K/ $\mu$ L) groups ( $p < 0.0000001$  for both comparisons). The depressive disorders group ( $4.83 \pm 0.46$  M/ $\mu$ L) had significantly lower erythrocyte count than the bipolar disorders ( $7.39 \pm 2.03$  M/ $\mu$ L) and the psychotic disorders group ( $8.03 \pm 2.19$  M/ $\mu$ L) ( $p < 0.0000001$  for both comparisons).

**Conclusion:** Although MPVs were in the reference interval ( $7.7-11$  K/ $\mu$ L), values of all groups were close to the upper limit of reference range. Furthermore, platelet count in bipolar disorders group was significantly higher than in the depressive disorders group, which suggests that mood stabilizers stimulate production of platelets. Investigating the effects of drugs on the process of thrombopoiesis could be promising to provide biomarkers to monitor medication effects via peripheral blood sample. We found that the leukocyte count was higher in psychotic disorders group and bipolar disorder group. Neuroendocrine and inflammatory processes may be related with the findings.

**Keywords:** platelet, platelet volumes, depressive disorders

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### [Abstract:0523] *Biological psychiatry and neuroscience*

## Relationship between obesity and anxiety with nesfatin-1

Hayriye Baykan<sup>1</sup>, Ozgur Baykan<sup>2</sup>, Elif Gulsah Oguz<sup>1</sup>, Hayrettin Kara<sup>3</sup>, Serap Akdeniz Gorgulu<sup>1</sup>, Ali Yaman<sup>4</sup>, Tunay Karlidere<sup>1</sup>

<sup>1</sup>Department of Psychiatry, Balikesir University, Faculty of Medicine, Balikesir-Turkey

<sup>2</sup>Department of Biochemistry, Balikesir Ataturk State Hospital, Balikesir-Turkey

<sup>3</sup>Department of Biochemistry, Balikesir University, Faculty of Medicine, Balikesir-Turkey

<sup>4</sup>Department of Biochemistry, Marmara University, Faculty of Medicine, Istanbul-Turkey

e-mail address: egyelifilmaz@hotmail.com

**Objective:** Obesity is an important public health problem that is rapidly growing in the world. Obesity is a disease that causes multi-organ damage and death if not treated. Therefore, there are many research projects related to obesity. The relationship between obesity and the nesfatin 1 molecule was described for the first time in 2006. This 82-amino-acid molecule is related to satiety and is located in the hypothalamus. These molecules are secreted from neurons in areas where energy balance is regulated in the brain. This secretion suggests that the molecule can play a protective role against the development of obesity. However, in recent years, plasma levels of nesfatin in patients who develop obesity and psychiatric disorders are reported to be different from those in the healthy population. In our study, we aimed to detect levels of plasma nesfatin of highly anxious patients, low-anxious patients and non-obese healthy individuals and compare their results.

**Methods:** Blood samples were collected into tubes containing EDTA (Becton Dickinson, USA). Centrifugation at 1300g is used to separate the plasma. The plasma was divided into Eppendorf tubes and then 1% concentration protease inhibitor cocktail (Sigma Aldrich, USA) was added. It was then stored at  $-20^{\circ}\text{C}$ . Analysis was performed using the ELISA method with a commercial kit (RayBiotech, USA). SPSS 15.0 software was used for statistical analysis. Statistical significance level  $P < 0.05$  was adopted. After psychiatric interviews with patients, Hospital Anxiety and Depression (HAD) scale was applied and anxiety scores were evaluated.

**Results:** The study involved totally 83 participants in 3 groups; obese-anxious (Group1) ( $n=29$ ), obese-non-anxious (Group2) ( $n=29$ ) and nonobese-nonanxious (Group3) ( $n=25$ ). There was no statistically significant difference between the groups in terms of age and sex structure. The nesfatin-1 levels of Group1, Group2 and Group3 were  $28.4 \pm 7.1$ ,  $28.7 \pm 6.9$  and  $34.6 \pm 10.9$ , respectively. In terms of nesfatin-1 levels, there were statistically significant differences between Group3 and both Group1 ( $p=0.023$ ) and Group2 ( $p=0.034$ ).

**Conclusion:** In our study, the measured nesfatin-1 levels of obese patients were found significantly lower compared with healthy controls independently of anxiety scores. There are many different data about nesfatin-1 in the literature, so we need further researches about this subject.

**Keywords:** nesfatin-1, anxiety, obesity

**Bulletin of Clinical Psychopharmacology 2015;25(Suppl. 1):S108**

**[Abstract:0608] Biological psychiatry and neuroscience*****α-synuclein mRNA is up-regulated in the striatum of rats following alcohol-intoxication during adolescence***Petr Anokhin<sup>1</sup>, Farid Shagiakhmetov<sup>2</sup>, Alexey Ustyugov<sup>1</sup>, Sergey Bachurin<sup>1</sup>, Inna Shamakina<sup>2</sup><sup>1</sup>Institute of Physiologically Active Compounds Russian Academy of Sciences, Chernogolovka-Russia<sup>2</sup>Federal Medical Research Center for Psychiatry and Narcology, Russian Ministry of Health, Moscow-Russia

e-mail address: petranokhin@mail.ru

**Objective:** It is well established that early initiation to alcohol use is common among adolescents and strongly predicts alcohol abuse in adulthood. Although adolescence is known as a critical stage that is especially sensitive to alcohol, the molecular mechanisms underlying the long-lasting effects of alcohol remain unknown. The current study is based on the notion that dopaminergic imbalance is a key risk factor for the development of addiction and the hypothesis that α-Synuclein (α-Syn) can function as an activity-dependent negative regulator of DA neurotransmission. Therefore, we investigated the long-lasting effects of alcohol exposure during adolescence on the brain mRNA levels of α-Syn and tyrosine hydroxylase (TH) - the first rate-limiting enzyme in the DA biosynthetic pathway.

**Methods:** Midbrain and striatum were obtained from 58-d-old male Wister rats that had undergone 8 injections of 10% ethanol (3 g/kg, i.p., once daily starting from the 30<sup>th</sup> day of life) (experimental group, n=7) or vehicle (saline, control group, n=7). Levels of mRNA coding for α-Syn and TH were studied using quantitative RT-PCR. Total RNA was extracted using "RNeasy Lipid Tissue MiniKit" (Qiagen). The first cDNA strand was generated by reverse transcribing 1 μg of total RNA using "RevertAid First Strand cDNA Kit" (Fermentas). SYBR Green Quantitative real-time PCR analysis was performed using Multicolor Real-Time PCR Detection System iQ75 (BioRad). Expression of each gene was normalized to the expression of the β-actin housekeeping gene and relative expression was obtained according to the 2-ΔΔCt method. The RT-PCR data were analyzed with two-sample t-tests.

**Results:** The mRNA level of α-Syn varied among structures and in controls was 2.5-fold higher in the striatum compared to the midbrain. mRNA coding for TH was highly expressed in the midbrain. At the same time, an extremely low but clearly detectable level of TH mRNA was found in the striatum (6% relative to midbrain). Thus α-Syn mRNA is detected at high level in the striatum – a brain region that does not normally contain DA neurons. Alcohol exposure during adolescence had differential effects on the regional expression of α-Syn mRNA. The estimated relative expression α-Syn was significantly higher in the striatum of alcohol-treated rats compared to controls (2-ΔΔCt = 1.75±0.20 vs. 2-ΔΔCt = 1.02±0.09, p<0.05), however, no significant changes were found in the midbrain (2-ΔΔCt = 1.31±0.13 vs. 2-ΔΔCt = 1.07±0.17). No significant changes in TH mRNA levels were found in either structure between the alcohol-treated group and controls. Based on these data, it can be suggested that the up-regulation of α-Syn mRNA in the striatum associated with the alcohol-treated group may result from α-Syn mRNA accumulation in the presynaptic terminals of dopaminergic midbrain neurons, rather than additional DAergic differentiation in the striatal neurons as a consequence of synaptic activation by ethanol during adolescence.

**Conclusion:** The changes revealed in the levels of mRNA coding for α-synuclein confirm the conclusion to assume an important role of these molecules and support the idea that exposure to alcohol during adolescence may edit gene expression profiles in the brain and serve as a precursor for alcohol abuse later in life.

**Keywords:** adolescence, alcohol, α-synuclein

**Bulletin of Clinical Psychopharmacology 2015;25(Suppl. 1):S109**

**[Abstract:0659] Biological psychiatry and neuroscience*****Serum malonyldialdehyde levels of patients with schizophrenia***Mehmet Gunes<sup>1</sup>, Mehmet Akif Camkurt<sup>2</sup>, Suleyman Demir<sup>1</sup>, Aslihan Ibiloglu<sup>1</sup>, Mehmet Cemal Kaya<sup>1</sup>, Mahmut Bulut<sup>1</sup>, Abdullah Atli<sup>1</sup><sup>1</sup>Dicle University, Faculty of Medicine, Diyarbakir-Turkey<sup>2</sup>Afsin State Hospital, Kahramanmaraş-Turkey

e-mail address: dr.akif@gmail.com

**Objective:** Schizophrenia is a deteriorating disorder resulting in decreased life quality. Accumulative data point out the importance of free radicals in schizophrenia. Some studies also suggest a contribution of antioxidants to the outcome of schizophrenia. In the human body, lipid peroxidation is one of the major sources of oxidative stress. Malonyldialdehyde (MDA) is the end product of lipid peroxidation

and can be used as a marker of oxidative stress. Previous literature points to the existence of an increase in MDA levels in schizophrenic patients. However, results have been reported to be heterogeneous. Seasonal variations are predicted to be causing this heterogeneity.

**Methods:** Our study is comparing MDA levels of schizophrenia patients using typical, atypical and combined antipsychotics and healthy controls. 41 patients and 43 healthy controls participated in the study. The number of patients taking typical, atypical and combined antipsychotics was 11, 19, and 11, respectively. Plasma MDA levels were determined using the Draper and Hadley method based on the reaction of MDA with thiobarbituric acid (TBA) at 95°C. In the TBA test reaction, MDA and TBA react to form a pink pigment with an absorption maximum at 532 nm.

**Results:** According to our results, plasma MDA levels of patients using typical antipsychotics, atypical antipsychotics, combined antipsychotics and healthy controls were 6.6, 4.5, 5.6 and 3.9, respectively. MDA levels were higher in the patient group than in healthy controls but the difference was not statistically significant.

**Conclusion:** We did not find a significant difference between the groups. Previous data denote controversial results. McCreadie et al. did not find any significant difference between first episode schizophrenia patients and controls. Although some studies report increased lipid peroxidation in schizophrenia patients, according to a meta-analysis, the MDA level increase is consistent but not universal in schizophrenia. Future studies should be performed in more homogeneous and larger samples, keeping in mind that MDA levels show seasonal changes.

**Keywords:** malonyldialdehyde, serum, schizophrenia

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[Abstract:0660] *Biological psychiatry and neuroscience*

## Serum paraoxonase levels of schizophrenia patients treated with typical, atypical and combined antipsychotics

Mehmet Akif Camkurt<sup>1</sup>, Mehmet Gunes<sup>2</sup>, Suleyman Demir<sup>2</sup>, Aslihan Ibiloglu<sup>2</sup>, Mehmet Cemal Kaya<sup>2</sup>, Mahmut Bulut<sup>2</sup>, Abdullah Atli<sup>2</sup>

<sup>1</sup>Afsin State Hospital, Kahramanmaraş-Turkey

<sup>2</sup>Dicle University, Faculty of Medicine, Diyarbakir-Turkey

e-mail address: dr.akif@gmail.com

**Objective:** Schizophrenia is a devastating disorder, starting in early adulthood and continuing with relapses and remissions. Prevalence of schizophrenia is 1% and the life expectancy of these patients is reduced. Both typical and atypical antipsychotic drugs are used to treat schizophrenia. Human serum paraoxonase is a serum esterase with both paraoxonase and arylesterase activity that prevents LDL from peroxidation. PON1 is attached to the exterior surface of the cell and transported to HDL by lipoproteins. After this transportation PON1 strictly conjugates with HDL. To date, performed studies evaluating serum paraoxonase levels of schizophrenia patients included atypical antipsychotics. Our study is the first study comparing patients taking typical, atypical and combined antipsychotics together. Arylesterase is a form of paraoxonase that does not represent any polymorphism of activity. This can be evaluated as an identifier of actual protein concentration. PON1 activity is independent from age and sex but influenced by smoking, pregnancy, diet and acute phase reactants.

**Method:** Paraoxon and phenyl acetate substrates are used to measure paraoxonase and arylesterase activities. Forty-one patients and 43 healthy controls participated in the study. The number of patients taking typical, atypical and combined antipsychotics were 11, 19, and 11, respectively. Serum paraoxonase activity of patients using typical antipsychotics, atypical antipsychotics, combined antipsychotics and healthy controls was 67.8, 68.7, 69.1 and 66.9, respectively. Serum arylesterase activity of patients using typical antipsychotics, atypical antipsychotics, combined antipsychotics and healthy controls was 131.0, 138.1, 133.0 and 114.5, respectively.

**Results:** We did not find any significant upregulation in either paraoxonase or arylesterase activity.

**Conclusion:** Our study is the first study comparing schizophrenia patients using both typical and atypical antipsychotics along with combined antipsychotics. Previous studies showed partially contradictory results. One study did not find any significant difference between female patients using olanzapine and healthy controls. Another study showed that olanzapine reduces paraoxonase activity in schizophrenic patients. We did not find any significant up- or downregulation in either paraoxonase or arylesterase activity. Future studies should be done with more homogenous groups, exclude smokers, minimize dietary variations. This exclusions could be beneficial to researchers for better results.

**Keywords:** paraoxonase, schizophrenia, antipsychotics

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**[Abstract:0661] Biological psychiatry and neuroscience****Agomelatine-induced changes in monoamine levels of the diabetic brain: treatment of diabetes-induced depressive behavior**

[Nafiz Oncu Can](#)<sup>1</sup>, [Saniye Ozcan](#)<sup>1</sup>, [Murat Kozanli](#)<sup>1</sup>, [Taliha Harika Aydin](#)<sup>2</sup>

<sup>1</sup>Department of Analytical Chemistry, Anadolu University, Faculty of Pharmacy, Eskisehir-Turkey

<sup>2</sup>Department of Pharmacology, Anadolu University, Faculty of Pharmacy, Eskisehir-Turkey

e-mail address: nafizoc@anadolu.edu.tr

**Objective:** Diabetes mellitus is a metabolic disorder characterized by chronic hyperglycemia, which is caused by failure in insulin secretion and/or action that triggers various acute and chronic complications. The central nervous system complications of diabetes are known as "diabetic encephalopathy". Emotional disorders are more frequent in diabetic patients with respect to the general population. Changes in the central monoamine levels are accepted as the mechanisms responsible for the mentioned psychiatric disorders. Based on this knowledge, we investigated the effect of agomelatine treatment on diabetes-induced behavioral changes and alteration of monoamine levels in the brain.

**Methods:** Sprague-Dawley rats of the same age (weight: 250-350 g) were used. Total protocol was started with the induction of diabetes by a single intravenous administration of streptozotocin at 50 mg/kg dose; subsequently, agomelatine was administered at the fourth week, and further behavioral and analytical experiments were performed at the end of the sixth week. The experimental protocol was approved by the Anadolu University Animal Experiments Local Ethics Committee.

The effect of two weeks' agomelatine (40 mg/kg) administration on depressive behavior of diabetic rats was investigated with modified forced swimming test (MFST). The count of swimming, climbing and immobility behaviors over a 5 sec interval during 5 min was recorded for this purpose.

Following the behavioral tests, rats were sacrificed and the brains were removed. Following a conventional homogenization process, the resulting supernatant was removed and used for further analytical studies. Determination of serotonin, noradrenaline and dopamine levels was performed by liquid chromatography.

**Results:** In MFST, immobility counts of diabetic animals were found to be increased at week 4, whereas the number of climbing and swimming behaviors was decreased. Agomelatine treatment reduced the increased immobility of diabetic animals with a significant increase in the number of climbing behavior, with respect to the untreated diabetic rats. Chromatographic analyses proved that serotonin, noradrenalin and dopamine levels were decreased in brain homogenates of diabetic rats with respect to normoglycemic animals. In addition, when compared to the untreated diabetic animals, it was observed that agomelatine treatment increased central noradrenaline and dopamine levels of diabetic rats significantly. However, serotonin levels were not change in the agomelatine treated group.

**Conclusion:** Findings of this study indicate that agomelatine administration restores depression-like behaviors of diabetic rats to normal levels. Moreover, increased noradrenaline levels in the brain seem to be responsible for the beneficial effect of agomelatine on diabetes-induced depression-like behavior.

**Keywords:** agomelatine, depression, liquid chromatograph

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**[Abstract:0665] Biological psychiatry and neuroscience****Blood microRNA dysregulation in schizophrenia**

Mehmet Akif Camkurt<sup>1</sup>, Ibrahim Fatih Karababa<sup>2</sup>, Mehmet Emin Erdal<sup>3</sup>, Sultan Kandemir<sup>4</sup>, Huseyin Bayazit<sup>2</sup>, Mustafa Ertan Ay<sup>3</sup>, Hasan Kandemir<sup>5</sup>, Ozlem Inci Ay<sup>3</sup>, Erdinc Cicek<sup>6</sup>, Bahar Tasdelen<sup>7</sup>, Salih Selek<sup>8</sup>

<sup>1</sup>Afsin State Hospital, Kahramanmaraş-Turkey

<sup>2</sup>Department of Psychiatry, Harran University Training and Research Hospital, Sanliurfa-Turkey

<sup>3</sup>Department of Medical Biology, Mersin University, Faculty of Medicine, Mersin-Turkey

<sup>4</sup>Balikli Gol State Hospital, Sanliurfa-Turkey

<sup>5</sup>Department of Child and Adolescent Psychiatry, Harran University Training and Research Hospital, Sanliurfa-Turkey

<sup>6</sup>Cumra State Hospital, Konya-Turkey

<sup>7</sup>Department of Biostatistics, Mersin University, Faculty of Medicine, Mersin-Turkey

<sup>8</sup>Department of Psychiatry and Behavioral Sciences, University of Texas, Harris County Psychiatric Center, Texas-USA

e-mail address: dr.akif@gmail.com

**Objective:** Schizophrenia is a devastating psychiatric disorder. Comprehensive research has been performed to identify biomarkers for this disease. Unfortunately we do not yet have a reliable biomarker for schizophrenia. MicroRNAs are 22-nucleotide-long RNA transcripts that regulate expression of genes at post-transcriptional level. To date, a limited number of studies has been done with peripheral tissue of schizophrenia patients. Here we demonstrate microRNA levels in plasma of schizophrenia patients.

**Methods:** Peripheral blood samples were collected from 16 schizophrenia patients and 16 healthy controls. Total RNA was extracted from Peripheral Whole Blood using Tri-Reagent (Sigma). Reverse transcriptase reactions contained 5 µl of extracted total RNA. Quantitative-Comparative CT (ΔΔCT) Real-time PCR was performed in an ABI Prism 7500 Real-Time PCR System (Applied Biosystems) using SDS 2.0.6 software.

**Results:** Schizophrenia patients showed significant upregulation of five microRNAs: miR9-5p (p=0.002), miR29a-3p (p<0.001), miR106b-5p (p=0.002), miR125a-3p (p<0.001) and miR125b-3p (p=0.018).

**Conclusion:** We found miR106b-5p upregulated in schizophrenia patients. Liu et al. compared 14 healthy controls with 16 depressed patients and found that miR106-5p and four other microRNAs were up regulated in the plasma of depressed patients. Additionally miR106b-5p was found to be downregulated in children with attention deficit / hyperactivity disorder (ADHD). In their unpublished study, Karababa et al. found miR106a-5p and miR106b-5p upregulated in manic patients. Perkins et al. found that miR-9-3p and miR-29a were downregulated and miR-106b was upregulated in the prefrontal cortex of individuals with schizophrenia. We believe combining our results with previous findings increases the likelihood the miR-106 family is disrupted in psychiatric disorders.

Limitations of our study are small sample size, cross sectional design, and limited number of microRNA types. Despite these limitations, our study contributes to revealing potential peripheral microRNA signatures and encourages researchers to focus on this field.

**Keywords:** schizophrenia, microRNA, blood

**Bulletin of Clinical Psychopharmacology 2015;25(Suppl. 1):S112**

**[Abstract:0668] Biological psychiatry and neuroscience****Effect of subacute agomelatine treatment on diabetic neuropathic pain**

Taliha Harika Aydin, Ozgur Devrim Can, Umide Demir Ozkay

Department of Pharmacology, Anadolu University, Faculty of Pharmacy, Eskisehir-Turkey

e-mail address: ozgurdt@anadolu.edu.tr

**Objective:** Diabetic neuropathy is a syndrome that develops with Diabetes mellitus only, in the absence of other factors that can cause neuropathy; it affects different components of the nervous system and can involve all types of nerve fibers. The drug groups most widely preferred for treating neuropathic pain in clinics are anticonvulsants and antidepressants. Based on the ability of antidepressants in the treatment of neuropathic pain, we planned to investigate possible effect of agomelatine, a new antidepressant drug, on hyperglycemia, metabolic alterations and neuropathic pain observed in diabetic rats.

**Methods:** Male Sprague-Dawley rats of the same age (weight: 250-300 g) were used for the experiments. Diabetes was induced by a

single 50 mg/kg dose of intravenous streptozotocin administration. The experimental protocol was approved by the Anadolu University Animal Experiments Local Ethics Committee. Effects of 7 and 14 days agomelatine (40 and 80 mg/kg) administration on hyperglycemia were assessed by measuring fasting blood glucose levels and conducting oral glucose tolerance tests (OGTT). Changes in metabolic parameters such as food and water consumption and excretion of urine and feces were monitored using metabolic cages. Weekly changes in the body weights of animals were recorded as well. The effect of agomelatine treatment on hyperalgesia occurring due to peripheral diabetic neuropathy was examined using Randall-Selitto (mechanical nociceptive stimulus), Hargreaves (thermal nociceptive stimulus), and cold-plate (4°C, thermal nociceptive stimulus) tests. The dynamic plantar esthesiometer, which measures the threshold values for mechanical stimuli, was used for allodynia studies; in addition, thermal allodynia was evaluated using warm-plate (38°C) test. Agomelatine administration was initiated 4 weeks after the induction of diabetes to permit development of nociceptive perception deficits in rats.

**Results:** Subacute administration of agomelatine did not cause any alterations in the blood glucose levels or metabolic parameters of diabetic rats with respect to the untreated diabetic animals. Moreover, body weights of diabetic rats were not affected by the agomelatine treatment. In contrast, subacute administration of agomelatine caused a significant increase in the reduced paw-withdrawal threshold, decreased paw-withdrawal latency and shortened reaction period of diabetic rats. Data obtained from OGTT, as well as blood glucose and metabolic cage measurements, suggest that agomelatine treatment does not induce a significant anti-hyperglycemic effect. On the other hand, findings of neuropathy tests indicated that subacute administration of agomelatine at doses of 40 and 80 mg/kg restored hyperalgesia and allodynia responses of the diabetic rats to the levels of normoglycemic control animals. Anti-hyperalgesic and anti-allodynic effects of this new antidepressant were comparable to the reference drug pregabalin (10 mg/kg).

**Conclusion:** Considering its antidepressant, anxiolytic and antinociceptive effects, it seems that agomelatine may propose clinical advantages for providing an ability to avoid polypharmacy in treatment of painful diabetic neuropathy and diabetes-induced affective disorders such as depression and anxiety.

**Keywords:** diabetes mellitus, agomelatine, neuropathy

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#### [Abstract:0669] *Biological psychiatry and neuroscience*

### Beneficial effect of mianserin in experimentally induced chronic hyperglycemia: evidence of increased Ins1 mRNA expression

Ozgur Devrim Can<sup>1</sup>, Umide Demir Ozkay<sup>1</sup>, Miris Dikmen<sup>2</sup>, Umut Irfan Ucel<sup>1</sup>

<sup>1</sup>Department of Pharmacology, Anadolu University, Faculty of Pharmacy, Eskisehir-Turkey

<sup>2</sup>Department of Clinical Pharmacy, Anadolu University, Faculty of Pharmacy, Eskisehir-Turkey

e-mail address: udemir@anadolu.edu.tr

**Objective:** The aim of this study was investigating the potential effect of subacute mianserin administration on diabetes-induced chronic hyperglycemia and metabolic alterations.

**Methods:** Male Wistar rats of the same age (weight: 250-300 g) were used for the experiments. Diabetes was induced by a single 50 mg/kg dose of intravenous streptozotocine (STZ) administration.

Effects of 14 days mianserin (30 and 45 mg/kg) administration on hyperglycemia arising in 6-week-diabetic rats were assessed by conducting oral glucose tolerance tests (OGTT) and by measuring glycated hemoglobin (HbA1c) levels. Changes in metabolic parameters such as food and water consumption and urine and feces excretion were observed using metabolic cages. Body weights of the animals were recorded weekly. Possible effect of mianserin treatment on Ins1 mRNA expression of diabetic rats was evaluated by real-time polymerase chain reaction (PCR) method. The experimental protocol was approved by the Anadolu University Animal Experiments Local Ethics Committee.

**Results:** Fourteen-days subacute administration of mianserin did not alter the OGTT results or HbA1c levels of normoglycemic animals. Similarly, mianserin caused significant alterations neither in the measured metabolic parameters nor in the body weights of normoglycemic rats. On the other hand, subacute administration of this drug to the diabetic animals significantly reduced the augmented HbA1c levels with respect to the untreated diabetic groups. Further, mianserin treatment caused significant reduction in the increased urine discharge, fecal output, water, and food consumption characteristic of diabetic animals. Weight loss of diabetic animals was also improved. With regard to the anti-hyperglycemic effect, mianserin administered at a dose of 30 mg/kg was found to be as effective as the reference drug metformin (dose, 1g/kg). Moreover, our real-time PCR results indicated that Ins1 mRNA expression levels of diabetic rats significantly decreased with respect to the normoglycemic rats, as expected. Mianserin administration significantly increased the reduced

levels of Ins1 gene expression in diabetic animals. Our data obtained from this study indicated that subacute administration of mianserin has a remarkable anti-hyperglycemic effect on STZ-induced long-term hyperglycemia. Further, this drug has a notable beneficial effect on chronic hyperglycemia-induced polydipsia, polyuria, polyphagia and weight loss. The observed anti-hyperglycemic effect of mianserin in this study seems to be mediated by an increase in insulin synthesis. Nevertheless, additional studies, such as examining the alterations in expressions of other related genes or measuring the levels of synthesized insulin by Western-blot method, are needed to verify this idea.

**Conclusion:** To the best of our knowledge, this is the first study to show that the anti-hyperglycemic effect of mianserin, an atypical antidepressant, in the experimental diabetes model was comparable to those of the reference drugs metformin. Considering that mianserin simultaneously exhibits antidepressant and anti-hyperglycemic effects, it seems that this drug could have an additional advantage for diabetic patients for treating the mood disorders caused by diabetes.

**Keywords:** anti-hyperglycemic, Ins1 mRNA expression, mianserin

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**[Abstract:0681] Biological psychiatry and neuroscience**

## Antidepressant-like effects of quercetin in mice: evidence for the involvement of monoaminergic mechanisms

[Feyza Alyu](#), [Umide Demir Ozkay](#), [Yusuf Ozturk](#)

Department of Pharmacology, Anadolu University, Faculty of Pharmacy, Eskisehir-Turkey

e-mail address: feyzaalyu@anadolu.edu.tr

**Objective:** Recent evidence suggests that quercetin, which has the structure 3,3',4',5,7-pentahydroxyflavone, exhibits several central nervous system (CNS)-related activities like antinociception and cognitive enhancement as well as antidepressant-like and anxiolytic-like effects etc. In this study, we aimed to investigate the possible mechanism underlying the antidepressant-like effect of quercetin.

**Methods:** Adult BALB/c female mice, weighing 30–35 g, were used for the experiments. The animals were housed in a room with a controlled temperature ( $25\pm 1^\circ\text{C}$ ) and photoperiod (12-h light/dark cycle, with lights being switched on at 08.00 AM). Temperature, sound levels, and light conditions were not altered during the course of the experiments. The antidepressant-like activity of quercetin (100 mg/kg, intraperitoneally) was evaluated by modified forced swimming and tail suspension tests, which are widely used behavioral despair models for anti-depressant drug screening studies. Additionally, the spontaneous locomotor activities of the mice were assessed using the activity cage apparatus. To determine the mechanisms underlying the antidepressant-like effect of quercetin, mice were treated with different pharmacological agents. A possible participation of the serotonergic system in the pharmacological effect of quercetin was investigated using p-chlorophenylalanine methyl ester (inhibitor of serotonin synthesis, PCPA), and the probable contribution of the catecholaminergic system was examined using  $\alpha$ -methyl-para-tyrosine methyl ester (inhibitor of catecholamine synthesis, AMPT). Statistical analyses were performed using GraphPad Prism 6.01 software (GraphPad Software, San Diego, CA, USA). Comparisons between the experimental groups were performed either by one-way ANOVA followed by Tukey's test or two-way ANOVA followed by the Bonferroni post hoc test. The experimental protocol was approved by the Local Ethical Committee on Animal Experimentation of Anadolu University, Eskisehir, Turkey.

**Results:** In both modified forced swimming and tail suspension tests, immobility time of the mice was significantly reduced by quercetin administrations (100 mg/kg i.p.), indicating the antidepressant-like activity of this phenolic compound. In the activity cage tests, quercetin administration did not change the total number of horizontal or vertical activities indicating that the observed antidepressant-like effect was not affected by probable changes in the locomotor activity.

Data obtained from the mechanistic studies showed that the anti-immobility effect of quercetin in the tail suspension test was reversed with both AMPT and PCPA administrations. This finding provides an evidence that the anti-depressant-like effect of the compound is related with an increase in the serotonin and catecholamine levels in the CNS.

**Conclusion:** To the best of our knowledge, this is the first study to show the underlying mechanisms of the anti-depressant-like effect of quercetin. Although our results are preliminary, further studies with specific receptor antagonists are expected to clarify possible involvement of other receptors in the antidepressant-like effect of quercetin.

**Keywords:** modified forced swimming test, quercetin, tail suspension

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**[Abstract:0687] Biological psychiatry and neuroscience****Evaluation of vitamin D3 metabolism in psychiatric disorders**

[Sinan Erenkus<sup>1</sup>](#), [Hakan Balibey<sup>1</sup>](#), [Zehra Erenkus<sup>2</sup>](#), [Onur Durmaz<sup>3</sup>](#), [Recep Tutuncu<sup>1</sup>](#), [Ayhan Algul<sup>1</sup>](#), [Alpay Ates<sup>1</sup>](#), [Servet Ebrinc<sup>1</sup>](#), [Cengiz Basoglu<sup>1</sup>](#)

<sup>1</sup>Department of Psychiatry, GATA Haydarpasa Training Hospital, Istanbul-Turkey

<sup>2</sup>Freelance Biostatistician Consultant, Istanbul-Turkey

<sup>3</sup>Balikesir Military Hospital, Balikesir-Turkey

e-mail address: sinanerenkus@gmail.com

**Objective:** The detection of vitamin D3 receptors (VDR) in many tissues in the human body has yielded new insights into the mechanism of vitamin D3. As low levels of vitamin D3 were determined in schizophrenia, bipolar disorder, and depression, vitamin D3 metabolism was suggested as an implicated factor in the underlying mechanism of these disorders. In this study, we aimed to elucidate the metabolism of vitamin D3 in schizophrenia, bipolar disorder, and depression patients.

**Methods:** In this study 57 schizophrenia, 63 bipolar disorder, and 53 depression patients who were meeting the criteria in DSM-5 and 53 healthy control subjects were enrolled. Vitamin D3 levels were measured in blood samples and compared between all groups.

**Results:** Significant differences were found in plasma vitamin D levels between all groups by ANOVA statistics ( $p < 0.001$ ). All disease groups are significantly lower than the healthy control group in LSD post-hoc test. Odds ratios are evaluated for comparing disorders by group regarding vitamin D3 (High/Low), which are determined by the median of plasma concentration. Odds ratios were determined; low levels of vitamin D3 were found to be linked to a 6-fold increased risk of schizophrenia, 4-fold increased risk of bipolar disorder, and 5-fold increased risk of depression in patient groups related to healthy controls.

**Conclusion:** This study indicates that the level of vitamin D3, found to be low in schizophrenia, bipolar disorder, and depression, could be a candidate marker in the diagnosis of these disorders. Whether the status of vitamin D3 deficiency is due to neurodevelopmental processes of the disorders or the sedentary and isolated lifestyle encountered often in these patients is unclear. Future well-established prospective studies are warranted to determinate the role of vitamin D3 in psychiatric disorders and to develop novel promising treatment options.

**Keywords:** odds ratio, psychiatric disorders, vitamin D3

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**[Abstract:0736] Biological psychiatry and neuroscience****Contribution of adrenergic receptors to anti-allodynic effect of mianserin in experimentally induced diabetic neuropathy model**

[Umut Irfan Ucel<sup>1</sup>](#), [Ozgur Devrim Can<sup>2</sup>](#), [Umide Demir Ozkay<sup>2</sup>](#)

<sup>1</sup>Department of Pharmacology, Anadolu University, Graduate School of Health Sciences, Eskisehir-Turkey

<sup>2</sup>Department of Pharmacology, Anadolu University, Faculty of Pharmacy, Eskisehir-Turkey

e-mail address: uiucel@gmail.com

**Objective:** Our research group previously reported that mianserin has the ability to reduce diabetic neuropathic pain at doses of 30 and 45 mg/kg, comparable to a widely prescribed drug, pregabalin (10 mg/kg), used in the clinical treatment of neuropathic pain. Based on this finding, in this study we planned to investigate possible mechanisms underlying this beneficial effect of mianserin on diabetic neuropathic allodynia.

**Methods:** Male Wistar rats of the same age (weight, 250-300 g) were used for the experiments. Diabetes was induced by a single 50 mg/kg dose of intravenous streptozotocine administration. Mianserin treatment (30 mg/kg) was initiated 4 weeks after the induction of diabetes to permit development of nociceptive perception deficits in rats. The dynamic plantar esthesiometer, which measures the threshold values for mechanical stimuli, was used for allodynia studies. Further, thermal allodynia was evaluated with the warm-plate (38°C) test. The potential contribution of the serotonergic system to the effect of mianserin was investigated using p-chlorophenylalanine methyl ester (PCPA; an inhibitor of serotonin synthesis, 600 mg/kg, administered for 2 consecutive days, i.p.), whereas a possible involvement of the catecholaminergic systems was examined using  $\alpha$ -methyl-para-tyrosine methyl ester (AMPT; an inhibitor of catecholamine synthesis, daily 200 mg/kg x 2 times, i.p.). In independent experiments, involvement of the adrenoceptors in the observed antiallodynic effects of mianserin were evaluated with phentolamine (a non-selective  $\alpha$ -adrenoceptor antagonist, 5 mg/kg, i.p.) and propranolol (a non-selective  $\beta$ -adrenoceptor antagonist, 5 mg/

kg, i.p.). The experimental protocol was approved by the Anadolu University Animal Experiments Local Ethics Committee.

**Results:** Subacute administration of mianserin at a dose of 30 mg/kg reduced diabetes-associated mechanical and thermal allodynia. The antiallodynic effect of mianserin was reversed with AMPT, phentolamine, and propranolol. The same effects were not reversed, however, by PCPA. The results suggest that the observed beneficial effect of mianserin on diabetic neuropathic pain is unrelated to the level of 5-HT in the synapse. Instead, it is mediated through an increase in catecholamine levels in the synaptic cleft, as well as through interactions with both subtypes of adrenoceptors. However, other mechanisms, e.g. mechanisms involving the GABAergic, glutaminergic and nitrenergic systems, may also have contributed to the observed pharmacological effect of mianserin in the present study.

**Conclusion:** Considering the simultaneous antidepressant and antinociceptive effects of mianserin, it is possible to recommend this drug as a good alternative for treatment of pain associated to diabetic neuropathy and mood disorders caused directly by diabetes.

**Keywords:** mianserin, allodynia, adrenoceptors

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## CHILD AND ADOLESCENT MENTAL AND BEHAVIORAL DISORDERS

[Abstract:0090] *Child and adolescent mental and behavioral disorders*

### Correlations with frontal lobe functions as evaluated by trail making test in a sample of patients with probable DSM-5 disruptive mood dysregulation disorder

Ali Evren Tufan<sup>1</sup>, Nuran Demir<sup>1</sup>, Ugur Savci<sup>1</sup>, M. Akif Cansiz<sup>1</sup>, Sarper Taskiran<sup>2</sup>, Bengi Semerci<sup>3</sup>

<sup>1</sup>Department of Child and Adolescent Psychiatry, Abant Izzet Baysal University, Faculty of Medicine, Bolu-Turkey

<sup>2</sup>Department of Psychiatry, Koc University, Faculty of Medicine, Istanbul-Turkey

<sup>3</sup>Bengi Semerci Institute, Istanbul-Turkey

e-mail address: savciugur172@hotmail.com

**Objective:** Disruptive Mood Dysregulation Disorder (DMDD), a novel diagnosis listed in DSM-5, is characterized by severe, impairing, developmentally inappropriate temper outbursts out of proportion to triggers. It is thought to be related to Depressive Disorders. As a new entity, the neuropsychological characteristics of patients still have not been elucidated. Here, we aim to present correlations of frontal lobe tests with clinical features among cases with probable DMDD.

**Methods:** Records of 6074 patients at the study center between May 2011 and 2013 were screened for presenting complaints; 600 patients complaining of "irritability" and "temper tantrums" were identified. After eliminating patients with incomplete/missing data and those <6 year-old, 200 patients remained. Patients were evaluated at application with the Childhood Mania Rating Scale (CMRS), Parent Version of the Young Mania Rating Scale (P-YMRS), the Children's Depression Inventory and the Screen for Anxiety and Related Disorders along with the Atilla Turgay Scale. To differentiate those with probable DMDD, patients with a P-YMRS score of <20 (below cut-off), CDI <19 (below cut-off) and those with <4 criteria endorsed as "frequent" or "very frequent" in the ODD section of AT-Parent and AT-Teacher were selected. Twenty-one (21.2%) of the patients were evaluated with Trail Making Test A and B (TMT-A and TMT-B) at baseline evaluation. Partial correlation analysis controlling for gender and age was used to determine relationships between TMT-A and B tests and CMRS, P-YMRS, AT-Parent, AT-Teacher, CGI, CDI and SCARED scores. P was set at 0.05. All comparisons were two-tailed.

**Results:** Twenty-one patients (66.7% male) with a mean age of 11.3 years (SD 1.6) were evaluated. Patients with baseline TMT were in higher grades ( $p=0.03$ ) and tended to get higher score of WISC-R ( $p=0.08$ ) when compared with those without. Otherwise, CMRS, P-YMRS, CDI, SCARED, CGI-S and AT-Parent and Teacher scores did not differ.

Male and female patients did not differ in terms of their ages or psychometric tests including TMT-A and B durations and errors. Median CGI-S for the whole sample was 4.0 (Moderate) with no significant difference between genders. Other baseline psychometric evaluations did not differ according to gender. Partial correlation analysis controlling for gender and age revealed that durations to complete TMT-A and B forms correlated negatively with disorder severity (CGI-S) and subjective anxiety symptoms as reported by SCARED.

**Conclusion:** Patients were in their majority male, moderately impaired, and there was no statistically significant difference between genders. Partial correlation analyses revealed that those with more severe disorders completed the TMT-A form in a significantly longer time. Those with higher anxiety symptoms tended to complete the TMT-B form in a significantly longer duration. Although retrospective design precludes hypotheses about causation, it may be judged that TMT-A as a more basic test may be affected more by global disorder severity while TMT-B tapped the performance anxiety dimension better, leading to an inverse correlation with SCARED scores. Our results should be replicated with further, longitudinal studies involving larger samples.

**Keywords:** disruptive mood dysregulation disorder, mood disorders, executive functions

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**[Abstract:0124] Child and adolescent mental and behavioral disorders****Behavioral assessment of child sexual abuse victims attending a child psychiatry clinic in Samsun/ Turkey after a traumatic event**

[Mirac Baris Usta<sup>1</sup>](#), [Armagan Aral<sup>1</sup>](#), [Seher Akbas<sup>1</sup>](#), [Berna Aydin<sup>2</sup>](#)

<sup>1</sup>Department of Child and Adolescent Psychiatry, Ondokuzmayis University, Faculty of Medicine, Samsun-Turkey

<sup>2</sup>Department of Forensic Medicine, Ondokuzmayis University, Faculty of Medicine, Samsun-Turkey

e-mail address: dr.miracbarisusta2@gmail.com

**Objective:** Child Sexual Abuse(CSA), which damages psychological and physical health and has negative effects on development, is a serious public health problem in the world. Several studies have shown that a number of psychiatric disorders may develop, such as behavioral problems, compromised interpersonal relations, sexually oriented behavior, engagement in high-risk activities, substance dependence, suicidal thoughts or behavior, personality disorders, depression, dissociation, and post-traumatic stress disorder (PTSD). Thus, there is strong evidence that CSA-related PTSD have a profound and often lasting impact that can encompass psychological health, neurobiological development, relational skills, and risk behaviors. In this study, we aimed to extend our understanding of consequences of sexual traumas and trauma-related emotional and behavioral problems with a detailed psychiatric examination and assessment with Youth Self-Report (YSR) of CSA victims after a traumatic event.

**Methods:** Victims said by judicial authorities to have been subjected to sexual abuse are referred to the Ondokuzmayis University Faculty of Medicine Forensic Medicine Department for examination and reports establish the severity of the physical and psychiatric damage resulting from such sexual abuse. 160 cases under the age of 18, referred for this purpose from several provinces of Turkey between January 01, 2007 and December 31, 2013, were included in the study and their patient files examined. We used a Turkish version of the Youth Self-Report (YSR) as screening instrument in the first stage.

**Results:** Sociodemographic findings: CSA victims were  $15.3 \pm 1.9$  years old on average, and 87.5% were female. Control subjects were  $15.0 \pm 1.8$  years old on average and 87.0% were female. There was no significant difference regarding age, gender and education.

YSR findings of the groups: CSA victims compared to the control subjects reported significantly higher problem scores in internalizing problems anxiety/depression, total problems and aggressive behavior subtests. There is no significant correlation between CSA victims age and problem scores and also no significant difference in problem scores between gender groups.

**Discussion:** Child sexual abuse is associated with various psychiatric disorders and life-long behavioral problems. In our study, we found internalizing problems such as anxiety/depression and also aggressive behavior statistically significantly increased. In contrast to the literature, in our study there is no significant correlation between CSA victims' age and problem scores, and also no significant difference in problem scores between gender groups. Prevalence of psychological pathology was raised in the male gender and when the abuse was recurrent, although the differences were not statistically significant.

**Keywords:** youth self-report, child sexual abuse, PTSD

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**[Abstract:0128] Child and adolescent mental and behavioral disorders****Rate of perinatal nicotine exposure in children with the diagnosis of Attention Deficit Hyperactivity Disorder**

[Alper Evrensel<sup>1</sup>](#), [Ozgun Yorbik<sup>2</sup>](#), [Murat Oncu<sup>3</sup>](#)

<sup>1</sup>Department of Electroneurophysiology, Uskudar University, Vocational School of Health Services, Istanbul-Turkey

<sup>2</sup>Department of Child and Adolescent Psychiatry, Maltepe University, Faculty of Medicine, Istanbul-Turkey

<sup>3</sup>Department of Psychiatry, GATA Haydarpasa Training Hospital, Istanbul-Turkey

e-mail address: alperevrensel@gmail.com

**Objective:** Attention Deficit Hyperactivity Disorder (ADHD) is observed 3-5 times more in boys. The etiology of ADHD is not known precisely. Environmental and genetic factors may both play a role. Child adoption and genetic studies support this view. Being a first child



is a risk factor. Stress hormones, nicotine, caffeine, alcohol and their metabolites can pass through the placenta and reach the fetal brain. It is thought that nicotine has a role in the development of ADHD by modulating the dopamine receptors.

**Methods:** 72 children between the ages of 7 and 13 who applied to GMMMA (Gulhane Military Medical Academy) child and adolescent psychiatry polyclinic and received a diagnosis of ADHD according to DSM-4 diagnostic criteria, 17 girls (23.6%) and 55 boys (76.4%), were included in the study consecutively. A total of 119 children, 60 girls (50.4%) and 59 boys (49.6%) who applied to GMMMA pediatric polyclinic and in whom no mental disease was detected according to DSM-IV diagnostic criteria were included into the study, matching the age characteristics with the case group. Exposure to nicotine has been studied in two forms, "active" and "passive". Information on the exposure to nicotine in the perinatal and postnatal period was analyzed and ranked using a semi-structured form.

**Results:** The level of exposure to nicotine of the case group was found significantly higher than in the control group ( $Z=-4.154$ ,  $p<0.001$ ). The level of exposure to nicotine of the boys within the case group was detected significantly higher than among the boys in the control group ( $Z=-4.403$ ,  $p<0.001$ ). No significant difference was detected between the level of exposure to nicotine of the girls in the case group and the control group ( $Z=-1.109$ ,  $p=0.267$ ).

**Conclusion:** Nicotine affects and damages especially the structure of dopaminergic pathways and receptors during the development of the central nervous system. It is remarkable that no significant difference was detected between girls with the diagnosis of ADHD and girls in the healthy control group. This finding supports the assumption that factors other than nicotine contribute to ADHD development in girls exposed to nicotine in the perinatal period. Moreover, it was interpreted as one of the reasons for observing ADHD in boys 3-5 times more frequently compared to girls. This finding is compatible with studies that find the estimated relative risk to be lower in girls. As a result, the obtained data suggested that the exposure to nicotine in the perinatal period is a risk factor for ADHD development, although it is not a determining factor separately. It was detected that this effect is more significant in boys than that in girls.

**Keywords:** attention deficit hyperactivity disorder, nicotine, perinatal

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**[Abstract:0220] Child and adolescent mental and behavioral disorders**

## Psychotropic use in children aged under 7: an evaluation of admissions of children to a training and research hospital

[Sabide Duygu Tunas, Ozden Sukran Uneri, Zeynep Goker, Gulser Dinc, Ozlem Hekim Bozkurt](#)

Department of Child Psychiatry, Ankara Pediatric Hematology Oncology Training and Research Hospital, Ankara-Turkey  
e-mail address: st.duygu@hotmail.com

**Objective:** This study aimed to evaluate the frequency of psychotropic medication use and their nature in children under the age of 7 and to determine the predictive variables of using medications.

**Methods:** Between June 2013 and December 2013, data of children recorded in the Child Psychiatry Department of Ankara Pediatric Hematology Training and Research Hospital was reviewed retrospectively and data of children under the age of 7 was evaluated. Statistical analysis was carried out with SPSS 17.0 (Chicago Inc., 2008). T-test, Chi-square, Fisher's exact test and binary logistical regression analysis were used where appropriate.  $p<0.05$  was accepted as significant.

**Results:** Data for a total of 1433 of children aged under 7 was extracted from the 12,320 recorded data sets accumulated during the period of the study (11.6% of all sample). Mean age of children was  $4.3\pm 1.5$  (1-6 years), the majority of the children was in the 4-6 age group ( $n=991$ , 69.2%) and male ( $n=939$ , %65.5). There were no psychiatric disorders in 11.9% ( $n=171$ ) of the children, whereas 88.1% of the total ( $n=1262$ ) had at least one psychiatric disorder. As far as the psychiatric disorders were concerned, by far the most prominent disorders were the following: "Communication disorders ( $n=354$ , 24.7%)", "Mental Retardation (Full-Scale IQ score  $\leq 69$ :  $n=248$ , 17.3%)" and "Attention deficit hyperactivity disorder (ADHD,  $n=205$ , 14.3%)". The comorbid presence of any psychiatric disorders was found in 13.9% of all children ( $n=199$ ), by far the most diagnosed one being "Disruptive behavior disorders ( $n=139$ , 9.7%)". Psychotropic medication use was found in 15.7% ( $n=225$ ) of the sample. Mean age of children who were medicated was  $5.4\pm 0.9$  (2-6 years). Mean age differences between children who use medication ( $5.4\pm 0.9$ ), and those who do not ( $4.17\pm 1.5$ ) was found statistically significant ( $t=-12.018$ ,  $p<0.001$ ). The most used psychotropic medication was risperidone monotherapy (4.5%,  $n=64$ ). Presence of ADHD ( $X^2=7.991$ ,  $p=0.005$ ) and pervasive developmental disorder (PDD,  $X^2=5.560$ ,  $p=0.037$ ) had an significant effect on starting medication. The presence of any comorbid psychiatric disorders in children with specific learning disorder (SLD) was found to be an indicator of

psychotropic use ( $X^2=22.069$ ,  $p<0.001$ ). Predictors of medication use were found as follows: age (4-6 age group;  $p<0.001$ ,  $Beta=1.602$  95% CI 1.250- 2.054); being male ( $p=0.006$ ,  $Beta=0.595$  95%CI 0.411-0.861); the presence of comorbid psychiatric disorders ( $p<0.001$ ,  $Beta=0.071$  95%CI 0.046-0.110); the presence of anxiety disorders ( $p<0.001$ ,  $Beta=0.073$  95%CI 0.047-0.114) and elimination disorders ( $p=0.005$ ,  $Beta=0.240$  95%CI 0.089-0.0.648).

**Conclusion:** Being male, in the 4-6 age group, the presence of comorbidity, the presence of anxiety disorders and elimination disorders are found as predictors for using medication in children aged under 7 who are admitted to the Child Psychiatry Department.

**Keywords:** ADHD, child, psychotropic

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**[Abstract:0336] Child and adolescent mental and behavioral disorders**

## Testosterone and DHEA-S levels with chronic tic disorder in children

Lale Gonenir Erbay<sup>1</sup>, Sukru Kartalci<sup>1</sup>, Ozlem Ozel Ozcan<sup>2</sup>, Arzu Caliskan Demir<sup>2</sup>, Ayse Burcin Uyumlu<sup>3</sup>, Meryem Ozlem Kutuk<sup>4</sup>

<sup>1</sup>Department of Psychiatry, Inonu University, Faculty of Medicine, Malatya- Turkey

<sup>2</sup>Department of Child and Adolescence Psychiatry, Inonu University, Faculty of Medicine, Malatya-Turkey

<sup>3</sup>Department of Biochemistry, Inonu University, Faculty of Pharmacy, Malatya-Turkey

<sup>4</sup>Department of Child and Adolescence Psychiatry, State Hospital of Malatya, Malatya-Turkey

e-mail address: drozozlem@yahoo.com

**Objective:** The neurobiological basis of tic disorders is thought to be a series of interactions including genetic, environmental and gender-related factors. Male gender is thought to be an especially important risk factor in the pathogenesis of the tics. Our aim in this study was to investigate the gender-related hormones of testosterone, dehydroepiandrosterone sulfate (DHEA-S) and cortisol gender hormones in tic patients.

**Methods:** A total of 26 patients aged 7-12 years who had not entered puberty and were diagnosed with chronic motor or vocal tic disorder (CMVTD) or Tourette syndrome (TS) and 22 healthy children of similar age and gender were included in the study. Serum total testosterone, cortisol and DHEA-S levels were measured with the ELISA method and the relationship with clinical data was investigated.

**Results:** The testosterone and DHEA-S level of the patient group was higher than that of the control group ( $p=0.019$ ,  $p=0.025$ ) but no statistically significant difference was found between the cortisol levels ( $p=0.642$ ). No statistically significant correlation was found between DHEA-S and testosterone levels and the total tic severity, general disturbance and movement tic subscale scores ( $p=0.954$ ,  $p=0.669$ ,  $p=0.909$  respectively for testosterone;  $p=0.77$ ,  $p=0.45$ ,  $p=0.819$  respectively for DHEA-S).

**Conclusion:** The results of this study reveal an elevation of testosterone and DHEA-S in CMVTD and TS patients. Future studies with a larger number of patients can help elucidate the importance of these androgens in tic disorder.

**Keywords:** chronic tic disorder, DHEA-S, testosterone

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**[Abstract:0389] Child and adolescent mental and behavioral disorders**

## Testosterone level of children with the diagnosis of developmental stuttering

Engin Burak Selcuk<sup>1</sup>, Lale Gonenir Erbay<sup>2</sup>, Ozlem Ozel Ozcan<sup>3</sup>, Sukru Kartalci<sup>2</sup>, Kadir Batcioglu<sup>4</sup>

<sup>1</sup>Department of Family Medicine, Inonu University, Faculty of Medicine, Malatya-Turkey

<sup>2</sup>Department of Psychiatry, Inonu University, Faculty of Medicine, Malatya-Turkey

<sup>3</sup>Department of Child and Adolescent Psychiatry, Inonu University, Faculty of Medicine, Malatya-Turkey

<sup>4</sup>Inonu University, Faculty of Pharmaceutical Medicine, Malatya-Turkey

e-mail address: drozozlem@yahoo.com

**Objective:** The effect of gender in development and chronicity of stuttering is well known. It is more common and chronic in males. In this study, it is aimed to investigate the relation between developmental stuttering and the serum level of testosterone, which is one of the androgens.

**Methods:** In this study, 25 developmental stuttering patients aged 7 to 12 were included as patient group and 25 healthy children with the same demographic properties were included as control group. The testosterone levels of the two groups were determined in ng/ml by ELISA method. The difference between the means of the two group was analyzed by Pearson correlation test.

**Results:** The medians of the testosterone levels of the patient and control group were determined as 20 ng/mL (min-max=12.00-184.00) and 5 ng/mL (min-max=2.00-30.00), respectively. Testosterone level of the patient group was significantly higher than the control group ( $p=0.001$ ). Besides this, there was a significant correlation between the severity of the stuttering and the testosterone levels in the patient group ( $p=0.0001$ ).

**Conclusion:** The findings of the study show that testosterone may have an effect on the severity of developmental stutter and the clinical differences between the genders. However, further investigations are needed for a conclusion that testosterone may have a role in the etiology of developmental stutter.

**Keywords:** stuttering, testosterone, children

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**[Abstract:0492] Child and adolescent mental and behavioral disorders**

## The most common mental disorders among children of divorced parents

[Halenuur Teke, Veli Yildirim, Berna Polat, Fevziye Toros](#)

Department of Child and Adolescent Psychiatry, Mersin University, Faculty of Medicine, Mersin-Turkey  
e-mail address: drhalenuurteke@gmail.com

**Objective:** Divorce means destroying the family. Children need to live together with their family, family's care and support. Some authors have determined strong negative effects on children's psychological, intellectual and social development from divorced families. In this research, we aimed to determine which psychological disorders are more common among children whose parents are divorced.

**Methods:** This research was done by retrospectively reviewing the records of patients admitted for the first time in 2012 to Mersin University School of Medicine, Department of Child and Adolescent Psychiatry policlinic and whose parents were divorced. Patient's age, gender, time elapsed after divorce, drug use, observation time in policlinic and diagnosis were entered in SPSS for Windows 11.5 and statistically analyzed.

**Results:** One thousand six hundred fifty-five patients were admitted to the outpatient clinic in 2012. 159 (9.6%) of them came from divorced parents. Their average age was  $11.3 \pm 3.7$  (min: 3, max: 18). Of the 159 children with divorced parents 88 (55.3%) were male and 71 (44.7%) were female. Average time elapsed after divorce was 64.6 (min: 1, max: 204) months. Patients' common diagnosis according to the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) criteria were: 64 (40.3%) Attention Deficit Hyperactivity Disorder (ADHD), 37 (23.3%) depression, 31 (19.5%) sexual abuse, 20 (12.6%) adjustment disorder. 20 (12.6%) of them came for consulting though they had no psychological disorder.

**Conclusion:** According to ADHD prevalence studies, 5-10% of the community is affected by this disorder, but in our research, 40% of the children whose parents were divorced had this disorder, which seems to be very high. The reason for this high rate can be sought in various issues such as lone parents who cannot support their child's ADHD symptoms on their own and are more likely to present at the polyclinic, or these children can cause more and more problems between parents and this situation leads to divorce.

The causes for the high rate of depression among these children may be that they can be influenced by problems between parents after divorce or be abused and emotionally neglected or wronged by parents' behaviors during the divorce process and the chaotic situation in the family before divorce. In addition to emotional neglect, there are many children suffering from health neglect, with their family not taking them to hospital. Therefore, it is predicted that the real rate of depression is higher than this rate.

In our research, the rate of sexual abuse was 12.6%, which is very high and perturbing. This shows that children of divorced parents are more exposed to sexual abuse. Children's and parents' awareness must be raised about this situation. It is important that neglect and abuse risk factors must be determined among children whose parents are divorced; in this case, social service experts must follow risky children by visiting their homes and if necessary provide consultation, health, education, care and shelter resolutions, as mentioned in The Law of Child Protection in Turkey.

**Keywords:** child, divorce, mental disorders

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**[Abstract:0518] Child and adolescent mental and behavioral disorders****Psychological difficulties, symptoms and posttraumatic stress disorders in children and adolescents after liver transplantation**

[Ozlem Ozcan<sup>1</sup>](#), [Pelin Con Bayhan<sup>1</sup>](#), [Ayse Selimoglu<sup>2</sup>](#), [Ilknur Varol<sup>2</sup>](#), [Hamza Karabiber<sup>2</sup>](#)

<sup>1</sup>Department of Child and Adolescent Psychiatry, Inonu University, Malatya-Turkey

<sup>2</sup>Department of Pediatric Gastroenterology, Inonu University, Faculty of Medicine, Malatya-Turkey

e-mail address: drozozlem@yahoo.com

**Objective:** Liver transplantation offers a quality life chance for children and adolescents who have a serious liver disease. Chronic illness, invasive interferences, hospitalization of the transplantation and stay in the intensive care unit, medication compliance and side effects, and complications after transplantation cause a significant degree of mental stress and may lead to a deterioration of mental health. This study aimed to evaluate the psychological difficulties of children after liver transplantation.

**Methods:** This randomized controlled trial included 48 liver transplant patients between 4-18 years of age who had received liver transplants in the Inonu University Turgut Ozal Medical Center transplant unit, 37 patients with chronic liver disease and 50 healthy children and adolescents. Families of children and adolescents participating in this study filled the sociodemographic data form and parents form of Strength and Difficulties Questionnaire (SDQ). Literate children age seven years and older and adolescents answered The Child Posttraumatic Stress Disorder Symptom Scale (CPSS); those 11 years and over answered SDQ self-report form.

**Results:** There was no difference between the three groups in terms of age and gender ( $p < 0.05$ ). Comparing CPSS scores of the groups, there was no significant difference between chronic liver disease and transplant patients groups; it was determined that chronic liver disease and transplant patient groups scored significantly higher than the healthy group ( $p < 0.05$ ). Significant differences were not detected in terms of GGA-total and subscale scores between the three groups.

**Conclusion:** The results of this study suggest that the mental state of children with chronic liver disease and liver transplant is similar to healthy controls. However, the presence of symptoms of posttraumatic stress disorder in children in the two groups suggested that they are at risk in this regard.

**Keywords:** liver transplantation, psychiatry, post-traumatic stress disorder

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**[Abstract:0604] Child and adolescent mental and behavioral disorders****Tackling sexual risk behaviors in co-educational departments of adolescent psychiatry – challenge for a systemic approach in treatment**

[Miroslaw R Dabkowski](#)

<sup>2nd</sup> Department of Psychiatry, CAP Ward, Coll. Medicum, N. Copernicus University, Torun-Poland

e-mail address: domirka@uni.torun.pl

**Objective:** Sexual risk behaviors are common in adolescent populations with devastating consequences especially in clinical subpopulations. The noxious influences of such behaviors not only disturb the somatic and psychological wellbeing but also damage personal development, family system, neighborhood/social context and peer relations. The development of sexuality, when saturated with dynamic cognitive, emotional and behavioral disorders, exposes the child to the risk of sexual abuse, changes his/her mental activity and behaviors as well as parental and social perceptions of the child. Sexual risk behaviors mistakenly separated from a specific disease can lead to the worsening of basic mental condition, primarily affected by a mental disorder or intellectual disability. The therapeutic milieu of a co-educational in-patient ward focalizes and sharpens functions of sexual behavior of adolescence. In order to understand such risk behaviors and their meaning in clinical context as well as to tackle them in peer group interrelations there is a need to identify them.

**Methods:** Over the last 18 years, hospital observation of a cohort of over 6000 girls and boys (age 12 to 18) affected with mental illnesses (e.g., Bipolar Disorder, Schizophrenia, ADHD, Obsessive-Compulsive Disorder, Conduct Disorder, Intellectual Disability) hospitalized for an average of 3 weeks in a co-educational psychiatric department, the roles of their revealed sexual behaviors were categorized and discussed within their individual family therapies, patients group therapy and staff continuous training meetings. Psychotherapeutic

work was aimed at a proper understanding of sexuality of young people, natural ways of psychosexual development and its interference with psychopathological signs and symptoms of basic mental illness. Broadening awareness of different meanings of adolescents' sexual behaviors was associated with delimiting stable boundaries supported by open discussions. The effectiveness of such a multidimensional approach was assessed periodically every month, evaluating staff meetings and patients' and parents' reports.

**Results:** The roles of the disclosed sexual behaviors were categorized into: 1. preparation of reproduction; 2. confirmation of adulthood; 3. confirmation of masculinity/femininity (in front of the group); 4. establishment of intimacy, close dyadic relationship; 5. enhancement of self-esteem (attractiveness); 6. seeking of pleasure; 7. reducing emotional tension (fear, frustration); 8. risk-taking as sexual excitement and inversely; 9. expressing hostility and/or dominance; 10. governance and domination within the group - peer abuse (sexual bullying); 11. financial benefits as exchange; 12. symbolic/real self-mutilation and self-destruction; 13. rebelliousness against moral standards; 14. opportunistic implementation of desired standards of the group; 15. manifestation of psychopathology. In family meetings exploration of parental attitudes and patterns of their own sexuality were discussed in the context of revealed meanings of the child's sexual behavior. The role of the social milieu (peer group, hospital setting and environmental influences - religious and mass culture in particular) were always considered. The open and friendly discussion diminished the "grey zone" of undisclosed, harmful sexual relations, improved patients' subjective cooperation and their acceptance of necessary restrictions.

**Conclusion:** The multisystemic approach based on family along with work within the therapeutic group seems to tackle objectionable sexual risk behaviors in adolescent psychiatric departments and to enhance family resources in coping with them in future.

**Keywords:** adolescence, sexual behaviors, in-patient setting

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### [Abstract:0609] *Child and adolescent mental and behavioral disorders*

## Psychiatric disorders in patients with psychogenic cough

[Ayse Suleyman<sup>1</sup>](#), [Funda Suleyman<sup>2</sup>](#), [Ahmet Zihni Soyata<sup>3</sup>](#), [Ilyas Kaya<sup>2</sup>](#), [Behiye Alyanak<sup>2</sup>](#)

<sup>1</sup>Department of Pediatric Allergy and Immunology, Erzurum State Hospital, Erzurum-Turkey

<sup>2</sup>Department of Child and Adolescent Psychiatry, Istanbul University, Istanbul Faculty of Medicine, Istanbul-Turkey

<sup>3</sup>Department of Psychiatry, Istanbul University, Istanbul Faculty of Medicine, Istanbul-Turkey

e-mail address: draysesuleyman@yahoo.com

**Objective:** Psychogenic and habit cough are the common terms to refer to a chronic dry cough without evidence of organic base that does not respond to antitussive pharmacotherapy. It has been reported that children with psychogenic cough may have an underlying psychiatric disorder, most commonly conversion disorder (21.9%), followed by mixed anxiety and depressive disorder (12.2%). We aim to investigate underlying psychiatric disorders in patients with psychogenic cough.

**Methods:** Thirty-eight patients with psychogenic cough (23 males, 15 females, minimum age6, maximum age15, mean age: 9.4±2.9 years) were included in the study. To exclude other medical etiologies, physical examination, blood tests with complete blood count, erythrocyte sedimentation rate, blood chemistry, liver function tests, throat swab culture, pulmonary function tests, allergic profile, and chest X-ray were performed. Kiddie Schedule for Affective Disorders and Schizophrenia for School Age Children–Present and Lifetime Version (K-SADS-PL) was administered to assess psychiatric comorbidities.

**Results:** The most common psychiatric disorder was tic disorder with a frequency of 23.7%, followed by conversion disorder with the frequency of 21.1%. Other common diagnoses were as follows: separation anxiety disorder (13.2%), anxiety disorder not otherwise specified (13.2%), generalized anxiety disorder (10.5%).

**Conclusion:** Psychogenic cough was the second-most common cause of chronic cough in children aged 6 to 16 years, which may be due to a high frequency of tic disorders in childhood. Tic disorders were the most common diagnosis in our group, followed by conversion disorder and separation anxiety disorder. Some studies also report psychiatric comorbidities in patients with psychogenic cough. Bhatia et al. reported a 62% rate of psychiatric comorbidity; the most common diagnoses were conversion disorder (22%), mixed anxiety and depressive disorder (12%), and generalized anxiety disorder (10%). Anbar and Hall reported that conversion disorder was diagnosed in 11% and anxiety disorder in 2% of patients with psychogenic cough. Consistent with these findings, conversion disorder was the second-most common diagnosis in our sample. As a result, differential diagnosis between psychogenic and organic etiology of cough is very important in order to provide psychiatric help and avoid unnecessary medical procedures. Therefore, psychiatric evaluation should be performed for children with chronic cough.

**Keywords:** consultation liaison psychiatry, psychiatric comorbidities, psychogenic cough

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**[Abstract:0611] Child and adolescent mental and behavioral disorders****Psychiatric disorders in children with chronic idiopathic urticaria**Ayse Suleyman<sup>1</sup>, Funda Suleyman<sup>2</sup>, Ahmet Zihni Soyata<sup>3</sup>, Ilyas Kaya<sup>2</sup>, Behiye Alyanak<sup>2</sup><sup>1</sup>Department of Pediatric Allergy and Immunology, Erzurum State Hospital, Erzurum-Turkey<sup>2</sup>Department of Child And Adolescent Psychiatry, Istanbul University, Istanbul Faculty of Medicine, Istanbul-Turkey<sup>3</sup>Department of Psychiatry, Istanbul University, Istanbul Faculty of Medicine, Istanbul-Turkey

e-mail address: draysesuleyman@yahoo.com

**Objective:** The aim of this study was to determine the frequencies of psychiatric comorbidities in children and adolescents with chronic idiopathic urticaria (CIU) and compare these findings with the normal population.

**Methods:** Fifty-six patients (31 boys, 25 girls) participated in the study. All of them were being followed up at the outpatient clinic for at least 6 months and diagnosed as having CIU after excluding any possible causes of urticaria. Kiddie Schedule for Affective Disorders and Schizophrenia for School Age Children–Present and Lifetime Version (K-SADS-PL) were administered to assess psychiatric comorbidities.

**Results:** The mean age was 10.37±2.75 years. The frequency of any psychiatric disorder was 69.6%, and 17.9 % of the patients had more than one psychiatric disorder. Psychiatric comorbidity was higher in girls than boys (76% vs. 35.4%). The psychiatric comorbidities were as follows: social phobia (30.4%), attention deficit hyperactivity disorder (19.6%), separation anxiety, (10.7 %), anxiety disorder not otherwise specified (10.7%), major depressive disorder (7.1%), generalized anxiety disorder (5.4%), obsessive compulsive disorder (1.8%), and oppositional defiant disorder (1.8%).

**Conclusion:** Recent studies show that both adults and children with CIU frequently exhibit psychiatric comorbidity, most commonly depression and anxiety disorders consistent with our findings. Psychiatric comorbidities were registered in 60% of the CIU adult population and 70% of CIU pediatric population (versus 30% of controls); while depression was the most common diagnosis in adults, anxiety disorders were more frequent in children. The most common diagnoses included social anxiety disorder, separation anxiety disorder, and specific phobias. The present study confirms these findings in a Turkish population. In conclusion, CIU is a psychosomatic disorder and usually accompanied by a psychiatric disorder. The high frequency of psychiatric comorbidity must be kept in mind while evaluating these patients.

**Keywords:** anxiety disorders, chronic idiopathic urticaria, psychiatric comorbidities

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**[Abstract:0720] Child and adolescent mental and behavioral disorders****Diagnosis distribution of children who applied to Ege University child and adolescent psychiatry department developmental disorder outpatient clinic**

Binay Kayan, Sezen Kose, Fevzi Tuna Ocakoglu, Nazli Burcu Ozbaran

Department of Child and Adolescent Psychiatry, Ege University, Faculty of Medicine, Izmir-Turkey

e-mail address: dr.binaykayan@gmail.com

**Objective:** The purpose of this study is to investigate socio-demographic information, diagnoses, comorbidity, and treatment information of patients who attended the Developmental Disorders outpatient clinic of Ege University Medicine Faculty.

**Methods:** Files of 742 patients who presented to the Developmental Disorders outpatient clinic between January 2011- January 2015 were reviewed. The patient information was analyzed using SPSS 22.0 program.

**Results:** The mean age of the children was 9.66 years (SD:4.11). 71.3% of them are boys (n:529) and 28.7% are girls (n:213). The most common diagnoses were 39.1% mild mental retardation (n:290), 15.5% moderate mental retardation (n:115), 4.7% severe mental retardation (n:35), 28.6% autism spectrum disorder (ASD) [15.1% autistic disorder (n:112), 12.4% pervasive development disorder not otherwise specified (PDD-NOS) (n:92), 1.1% Asperger Syndrome (AS) (n:8)], 2.8% developmental delay (n:21) and 2.7% learning disabilities (n:20). Other diagnoses were border intelligence and speech disorders. The most frequent comorbid psychiatric disease was identified as ADHD in the MR group; in the mild MR group 41% (n:119), in the moderate MR group 33% (n:38) and in the severe MR group ADHD was 11.4% (n:4). In the MR group, autism spectrum disorder prevalence was found to increase with the severity of the disease. ASD comorbidity in the group of mild mental retardation was 3.4% (n:10), in the group of moderate mental retardation 6.1% (n:7) and in the

group of severe mental retardation 17.1% (n:6). ADHD was also found the most common comorbid psychiatric disorder in the ASD group; 17.45% (n:37). The rate of medication use was 66.2%. Single psychotropic drug usage was found in 47.1%, combination therapy was found in 19.2% of patients. The rate of using single antipsychotics was 27.9%. The rate of other psychotropic drugs added to antipsychotic treatment was 17.1%. Note that 33.8% of patients did not receive any pharmacological treatment. It was found that 90.7% of the patients attended at least one educational institution. While the rate of attending special education was 40.8%, that of attending both special education and formal education was 15.9%. It was observed that the rates of attending only formal education and vocational school were 20.3% and 1.6%, respectively.

The rate of attending an education center for autistic children was found to be 7% in the ASD group.

**Conclusion:** We found high comorbidity and treatment utilization rate, and the reason is thought to be that it represents a clinical sample. Behaviors associated with disruptive behavior disorders are more common in the group with mild mental retardation, while more behavioral problems associated with autism are observed in the group with more severe mental retardation.

Approximately one fifth of the patients need to take multiple drug combination. The recognition of the clinical and demographic characteristics of children with MR and ASD, which are the most common groups of patients presenting to child psychiatry clinics, is thought to be helpful for our clinical practice.

**Keywords:** antipsychotic medication, children, developmental disorders

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### [Abstract:0737] *Child and adolescent mental and behavioral disorders*

## Quality of life in children with type I diabetes mellitus and their mothers

Caner Mutlu<sup>1</sup>, Ebru Kaya Mutlu<sup>2</sup>, Hanifegul Taskiran<sup>3</sup>, Ilker Tolga Ozgen<sup>4</sup>

<sup>1</sup>Department of Child and Adolescent Psychiatry, Bakirkoy Training and Research Hospital for Psychiatry, Neurology and Neurosurgery, Istanbul-Turkey

<sup>2</sup>Department of Physiotherapy and Rehabilitation, Istanbul University, Faculty of Health Science, Istanbul-Turkey

<sup>3</sup>Department of Physiotherapy and Rehabilitation, Gelisim University, School of Health Science, Istanbul-Turkey

<sup>4</sup>Department of Pediatrics, Bezmialem University, Faculty of Medicine, Istanbul-Turkey

e-mail address: canerrmutlu@yahoo.com

**Objective:** It is important to know the health-related quality of life (HRQoL) in children with type 1 diabetes mellitus (T1DM) and their caregivers for identifying at-risk children and applying early intervention programs. The present study aimed to investigate HRQoL of children aged 8-12 with T1DM and their mothers.

**Methods:** Forty-seven children with T1DM (26 female, 21 male) and their mothers, and 55 healthy children (27 female, 28 male) and their mothers were enrolled in this prospective, cross-sectional and controlled study. The sociodemographic data were evaluated. The child self-report and parent proxy report of Pediatric Quality of Life Inventory 4.0 Scales (PedsQL 4.0) were used to assess the children's health-related quality of life (HRQoL); and the World Health Organization Quality of Life Instrument; short form (WHOQOL-BREF) was used for the mothers' HRQoL. Independent sample t-tests for normal distribution of data were used to determine differences of subjects' demographic and clinical features. P values < 0.05 were considered as statistically significant.

**Results:** The mean age was 9.87 years in the T1DM group and 9.56 years in the healthy group. The mean disease duration at the time of enrollment was 2.49±0.77 years. The analysis between the two groups indicated no significant differences in socio-demographic background (p>0.05). According to child self-reports, the T1DM group had a significantly lower total scale score (TSS), physical health summary score (PHSS), and psychosocial health summary score (PsHSS) than the healthy group (p<0.05 for all). There were no significant differences in these scores for parent proxy reports between the two groups (p>0.05). The WHOQOL-BREF scores for the mothers of the children with T1DM were statistically lower for physical health, psychosocial health and environmental area compared to mothers of healthy group (p<0.05 for all) while social relationships scores were not statistically different between the two groups (p>0.05).

**Conclusion:** Type 1 diabetes mellitus affects the HRQoL both of the children carrying the disease and their mothers. More support should be provided for the care of children with T1DM and their mothers. The reasons for the absence of a difference in parent proxy reports of HRQoL should be investigated in future studies.

**Keywords:** child, quality of life, type 1 diabetes mellitus

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**[Abstract:0742] Child and adolescent mental and behavioral disorders**

## Experience of paliperidone in a small sample of adolescent inpatients

Caner Mutlu<sup>1</sup>, Canan Tanidir<sup>1</sup>, Ali Guven Kilicoglu<sup>1</sup>, Hilal Adaletli<sup>1</sup>, Hatice Gunes<sup>1</sup>, Sena Aksoy<sup>1</sup>, Ayten Erdogan<sup>2</sup><sup>1</sup>Department of Child and Adolescent Psychiatry, Bakirkoy Training and Research Hospital for Psychiatry, Neurology and Neurosurgery, Istanbul-Turkey<sup>2</sup>Department of Child and Adolescent Psychiatry, Duzce University, Faculty of Medicine, Duzce-Turkey

e-mail address: canermutluu@yahoo.com

**Objectives:** Second-generation antipsychotics (SGA) are commonly used in several psychopathologies. Paliperidone, a new SGA, offers a potential new treatment option for adolescents, with several advantages including single dosage per day and availability in hepatic problems. In this report, it was aimed to investigate the efficacy and tolerability of paliperidone in a small sample of adolescent inpatients.

**Methods:** Demographic and clinical variables of eleven adolescents (6 male, 5 female) were evaluated. Of paliperidone, efficacy was assessed with clinical global impression scale-severity (CGI-S) for all cases, Young Mania Rating Scale (YMRS) for those with bipolar disorders, and positive and negative syndrome scale (PANNS) for those with psychosis. Tolerability was assessed with Simpson-Angus Extrapyramidal Side Effects Scale (SAS). Data was analyzed in descriptive statistics (frequency, mean and standard deviation).

**Results:** The mean age was 16.1 years and mean duration of paliperidone use was 20.1 days. Diagnoses of patients were psychotic disorder (n=5), bipolar disorder (n=3, 2 cases with psychotic symptoms), conduct disorder (n=1), and conduct disorder with comorbid bipolar disorder not otherwise specified (n=2). Mean paliperidone dose was 9.8 mg/day. Mean improvements were 1.2 in CGI-S scores (n=11), 20.3 in PANNS total score (n=7) and 17.8 in YMRS score (n=5). Seven patients had a score higher than 0.3 on SAS (63.6%).

**Conclusion:** Results showed clinically meaningful improvements in symptom measurements of different disorders. However, side effects should be evaluated regularly in adolescents. Future prospective studies with large samples are needed for definite conclusions.

**Keywords:** paliperidone, adolescent, inpatient

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**[Abstract:0834] Child and adolescent mental and behavioral disorders**

## Psychopharmacological treatment of patients with psychotic disorders in a child and adolescent inpatient psychiatry clinic

Selcen Sumeysra Guney Uzunkopru, Nazlı Burcu Ozbaran, Sezen Gokcen Kose

Department of Child and Adolescent Psychiatry, Ege University, Faculty of Medicine, Izmir-Turkey

e-mail address: selcengs@hotmail.com

**Objective:** Psychotic disorders include severe mental disorders which are characterized by extreme impairment of a person's ability to think clearly, respond emotionally, communicate effectively, understand reality, and behave appropriately. The diagnosis of psychotic disorders in children and adolescents is often complex and challenging. The treatment of psychotic disorders in adolescents can challenge even the most experienced clinicians. In addition to the difficulties posed by the disorder itself, the emerging independence of the adolescent and concerns about autonomy may decrease compliance with treatment. Hospitalization at the time of initial diagnosis is almost always indicated. This allows for a comprehensive evaluation and implementation of a treatment plan that includes pharmacotherapy. In this study, we aimed to evaluate the treatment of psychotic inpatients.

**Method:** Data of the patients hospitalized in Ege University Child and Adolescent Mental Health Service Inpatient Unit during 2 years with psychotic disorder (n=25) was assessed. The statistical analyses were evaluated using SPSS 16.0 program.

**Results:** Fifty-two percent (n=13) of patients with psychotic disorders were male and 48% (n=12) were female. Mean age of patients was 15.04±1.39. Patients' hospitalization period varied from 7 to 93 days and the mean duration was 44.52±23.23. It was found that 100% (n=25) of the patients were using antipsychotics, 56% (n=14) were using antidepressants, 40% (n=10) were using anxiolytics and 16% (n=4) were using mood stabilizer drugs. Of the patients that were on antipsychotic treatment, 16% (n=4) were using one, 48% (n=12) were using two and 36% (n=9) were using three antipsychotics. Risperidone (76%) was the most selected drug in antipsychotic treatment. According to the frequency of the drug usage in antipsychotic treatment, the other drugs were aripiprazole (56%), olanzapine (32%), quetiapine (24%), haloperidol (16%), clozapine (12%) and chlorpromazine (4%).

**Conclusion:** Early psychosis and its treatment and the early detection of psychosis are important. Pharmacological intervention is



necessary for remission, improvement of positive symptoms and to aid with the efficacy of psychosocial interventions. There is a lack of efficacy and safety data for the use of antipsychotic medication in children, with most of the information available being extrapolations of adult data. An increased use of atypical antipsychotic drugs in the treatment of psychotic disorders in childhood and adolescence has been accompanied by growing concern about the appropriate use and associated side effects in children and adolescents.

**Keywords:** psychotic disorders, psychopharmacological treatment, child and adolescence

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**[Abstract:0847] Child and adolescent mental and behavioral disorders**

## Normative data and factorial structure of the Turkish version of the Junior Temperament and Character Inventory-Revised (J TCI-R)

Samet Kose, Feryal Cam Celikel, Birgul Elbozan Cumurcu, Ilker Etikan, Kemal Sayar, C. Robert Cloninger

University of Texas Medical School at Houston, Department of Psychiatry, Houston, TX, USA

e-mail address: sametkose@gmail.com

**Objective:** Junior Temperament and Character Inventory (J-TCI) was developed by Luby et al. (1999) based on Cloninger's biopsychosocial model to assess temperament and character personality components in children and adolescents. The objective of the current study was to establish psychometric properties and factorial validity of the Turkish J-TCI in a sample of co-ed elementary and middle school students in Turkey.

**Methods:** The Turkish version of J-TCI was translated and developed by Kose and Celikel and administered to 1129 elementary and middle school students (male/female, 546/583). Internal consistency reliabilities were measured by Cronbach's alpha, test-re-test was assessed across 1 month.

**Results:** Principal axis factoring with Oblique rotations was used to investigate factorial validity. Cronbach alphas for the subscales of J-TCI ranged from 0.60 to 0.75 for temperament and character subscales, which was comparable to U.S and other populations. The correlations between first and second administration of J-TCI were significant ranging from 0.07 to 14. Factor analysis results using Eigenvalue greater than one rule indicated three factors out four factors for temperament scales and one factor out of two factors for character subscales, which was similar to findings from the other countries. When all of the subscales were subjected to factor analysis, four factors out of six factors were retained.

**Conclusions:** The reliability and factorial validity of the Turkish version of the J-TCI showed similarities with other reliability and validity studies of J-TCI and was therefore supported.

**Keywords:** Junior Temperament, Character Inventory-Revised, J TCI-R

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**[Abstract:0876] Child and adolescent mental and behavioral disorders**

## Naturalistic long-term safety results of second-generation antipsychotics in hospitalized children and adolescents

Burcin Seyda Karaca<sup>1</sup>, Neslihan Inal Emiroglu<sup>1</sup>, Sevay Alsen<sup>2</sup>, Burak Baykara<sup>1</sup>, Aynur Akay<sup>1</sup>

<sup>1</sup>Department of Child And Adolescent Psychiatry, Dokuz Eylul University, Faculty of Medicine, Izmir-Turkey

<sup>2</sup>Dr. Behcet Uz Children's Hospital, Izmir Child Observation Centre, Izmir-Turkey

e-mail address: burcinseydakaraca@gmail.com

**Objectives:** In this study, we aimed to investigate the effectiveness and cardiometabolic safety of antipsychotic drugs in a naturalistically treated pediatric inpatient population.

**Methods:** Two hundred patients aged between 8 and 18 who were consecutively hospitalized in the child and adolescent psychiatry unit of the Dokuz Eylul University hospital were included in the study. The study was approved by the Dokuz Eylul University Ethics Committee.

Treatment decisions were made independently from the research team based on clinical need. Body weight, height, prolactin, T4, fasting blood glucose, triglycerides, total cholesterol, LDL-cholesterol, HDL-cholesterol, liver function tests (ALT, AST), hemoglobin, leukocytes, and platelets were collected at time of admission and discharge. Data were also collected on duration of hospitalization, Children's Global Assessment of Functioning Scale scores (CGAS), and antipsychotic and concomitant treatment type, duration and dosages. Analyses were performed using SPSS 15 software.

**Results:** Significant baseline-to-endpoint improvements were observed regarding CGAS scores in all groups (each  $p < 0.0001$ ). In addition, there were also significant increases in body weight unadjusted for growth and treatment duration with risperidone, olanzapine and quetiapine, but not for aripiprazole and for the group treated with non-antipsychotic medications. The only significant within-group differences included a decrease in total cholesterol values with aripiprazole ( $p = 0.002$ ) and in the non-antipsychotic group ( $p = 0.001$ )

**Conclusions:** Different from others, non-significant weight gain and decrease cholesterol were found in aripiprazole and non-antipsychotic groups.

**Keywords:** antipsychotics, inpatient, child psychiatry

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**[Abstract:0877] Child and adolescent mental and behavioral disorders**

## Behavioral disorders in children with cancer

[Titova Yulia](#)

Department for the Study of Adolescent Psychiatry, Mental Health Research Center, Moscow-Russia

e-mail address: [julex@yandex.ru](mailto:julex@yandex.ru)

**Objective:** Behavioral disorders (in particular increased aggressiveness of children) are one of the most serious problems not only for doctors, teachers and psychologists, but also for society as a whole. Behavioral disorders in children suffering from severe somatic diseases, including cancer, are of particular importance because they make it difficult to adapt during long-term treatment of cancer.

**Methods:** We carried out a clinical examination of 143 patients treated in a scientific research institute of Pediatric Oncology and Hematology with various forms of cancer. The age of onset of cancer was in the range from 3 to 17 year-old, the youngest age group of 3 to 12 years (81 patients), adolescents from 12 to 17 (62 patients). Behavioral disorders were noted in 22 cases (15%). The study used the method of clinical observation, psychological tests to identify aggression in children, including projective techniques.

**Results:** Behavioral disorders were components of the reactive formation; they were observed more frequently in the younger age group. Behavioral disorders in the younger group (16 patients) were manifest in different kinds of hysterical, hysteria-demonstrative reactions, rudeness, and episodes of "verbal" and "physical" aggression. The aggressive actions of children were of reactive "protective" character when the children were trying to avoid the situation that frightened them. The aggression often was "instrumental" (6 patients): It had the aim to manipulate and it made it possible to achieve the desired result. In rare cases, the children's aggressive actions can be attributed to "target-aggression", which were determined by the features of forming constitution (the propensity for violence) due to inadequate education and heredity (7 patients). The aggressive displays were much rarer (6 patients) in the group of adolescents (12 to 17 years). "Verbal" aggression was more common. Teens had a tendency to blame parents for wishing to restrict their freedom, humiliated them, cursed and insulted. Direct aggressive action took the form of self-aggression (2 patients). Teenagers smoked "to spite", ate food contraindicated for them, drank alcohol, violated the regimen, or even refuse treatment. Some of them voluntarily left the clinic, ignored the doctor's demands, demonstratively skipping the necessary medical appointments.

**Conclusion:** Aggressive behavior of both children and adolescents has always led to significant adjustment disorders. Behavioral disturbances in children with cancer could act as a reaction component of adjustment disorders and it also arises due to changes in the affective background.

The motives of aggressive behavior were different and depended on age. Adolescents' behavioral disorders were protective-psychological reactions of protest against disease. The turbulent emotional manifestations in children were due to the desire to change the current situation of frustration. Appointment of anti-anxiety medications reduces the severity of aggression in children, indicating that they have anxiety as the main emotional background.

**Keywords:** behavioral disorders, children, psycho-oncology

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## DEMENTIA, DELIRIUM AND RELATED COGNITIVE DISORDERS

[Abstract:0640] *Dementia, delirium and related cognitive disorders*

### The effect of delirium on mortality

Nur Ozge Akcam<sup>1</sup>, Pinar Tosun Tasar<sup>2</sup>, Merve Gulsah Ulusoy<sup>4</sup>, Cigdem Altinel<sup>3</sup>, Ozan Fatih Sarikaya<sup>3</sup>, Sevnaz Sahin<sup>2</sup>, Soner Duman<sup>5</sup>, Fehmi Akcicek<sup>5</sup>, Aysin Noyan<sup>1</sup>

<sup>1</sup>Department of Psychiatry, Ege University, Faculty of Medicine, Izmir-Turkey

<sup>2</sup>Department of Geriatrics, Ege University, Faculty of Medicine, Izmir-Turkey

<sup>3</sup>Department of Internal Medicine Ege University, Faculty of Medicine, Department, Izmir-Turkey

<sup>4</sup>Department of Statistics, Ege University, Faculty of Medicine, Izmir-Turkey

<sup>5</sup>Department of Nephrology, Ege University, Faculty of Medicine, Izmir-Turkey

e-mail address: nurozgeakcam@yahoo.com

**Objective:** Delirium as a geriatric emergency is a disease commonly observed in elderly people. The reason of delirium is multifactorial and psychiatric disorders such as depression and alcoholism, psychoactive medicine usage, advanced age, poly-pharmacy, surgery, infections, exacerbation of present comorbid disease, hospitalization, or underlying cognitive problems such as dementia are predisposing for delirium. In some studies it has been shown that delirium lengthens the hospitalization of elderly people, increases expenditures for the health services, causes an increase in functional and cognitive problems and increases mortality. In this study, our aim was to evaluate the effect of delirium on mortality in geriatric patients diagnosed with delirium by Consultation-Liaison of Psychiatry (CLP).

**Methods:** Files of patients aged 65 years or older were evaluated between January 2005 and December 2013 by CLP field of science retrospectively. Information on a total of 1435 patients was collected. The effect of delirium on mortality was tested by log-rank method. The effects of variants such as age, gender and chronic diseases on mortality were examined by Cox regression analysis, univariate analysis was made firstly and multivariate analysis was performed on the parameters with significant singular analysis.

**Results:** Prevalence of delirium was determined as 25.5%. It was determined that delirium is seen more frequently in males and these males were older and a significant difference was observed among these ( $p=0.000$ ,  $p=0.000$  respectively), but no significant difference was found when the hospitalization days were considered ( $p=0.214$ ). A significant difference was observed on mortality in the first, second, third, fourth and fifth years between the two groups with or without delirium diagnosis ( $p<0.0001$ ). Univariate analysis was performed to investigate the effect of diseases on mortality; the parameters with significant results in univariate analysis (age, gender, lower urinary system disease, chronic lung disease, solid hematological malignancy, infections, Alzheimer's disease) were multivariately analyzed. In the multivariate analysis, it was observed that delirium constituted a risk factor for mortality independent from other diseases and demographical data such as age and gender.

**Conclusion:** In our study it was shown that delirium is a factor increasing mortality

**Keywords:** delirium, elderly people, mortality

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## DISSOCIATIVE, SOMATIZATION AND FACTITIOUS DISORDERS

[Abstract:0632] *Dissociative, somatization and factitious disorders*

### Psychiatric comorbidity in adolescents with dissociative disorders: a psychiatric outpatient sample

Funda Suleyman<sup>1</sup>, Ahmet Zihni Soyata<sup>2</sup>, Duygu Kinay<sup>1</sup>, Ayse Kilincaslan<sup>1</sup>, Behiye Alyanak<sup>1</sup>, Suleyman Salih Zoroglu<sup>1</sup>

<sup>1</sup>Department of Child and Adolescent Psychiatry, Istanbul University, Istanbul Faculty of Medicine, Istanbul-Turkey

<sup>2</sup>Department of Psychiatry, Istanbul University, Istanbul Faculty of Medicine, Istanbul-Turkey

e-mail address: fundasuleyman@gmail.com

**Objective:** The aim of the present study was to provide clinical data regarding comorbidity of psychiatric disorders in individuals with dissociative disorders (DD).

**Methods:** The study included 60 consecutive patients (8 male, 52 female, mean age: 15.6+/-1.8 years) diagnosed with DD in Istanbul Faculty of Medicine, Department of Child and Adolescent Psychiatry. The patients were diagnosed according to the DSM-IV criteria and the psychiatric comorbidity was assessed using the Schedule for Affective Disorders and Schizophrenia for School Age Children - Present and Lifetime Version. The patients also filled in a questionnaire to gather information about types of trauma, suicide attempts and self-mutilative behaviors. Adolescent Dissociative Experiences Scale (ADES) and Posttraumatic Stress Reaction Index (PSRI) were also administered.

**Results:** The mean age at first admission and diagnosis were 14.3 and 15.6 years, respectively. The types of trauma reported were emotional abuse (66.7%), physical abuse (63.3%), emotional neglect (56.7%), sexual abuse (50%), and incest (20%). Seventy-one percent of the sample reported multiple traumas. The frequency of suicide attempts and self-mutilative behaviors were 66.7% and 88.3%, while 46% reported multiple suicide attempts. Fifty-eight percent of the sample were diagnosed with Dissociative Identity Disorder and 42% with Dissociative Disorder Not Otherwise Specified. All patients reported at least one comorbidity. The mean number of psychiatric comorbidities was 3.8 and the most common ones were as follows: 88% major depressive disorder (MDD), 45% posttraumatic stress disorder (PTSD), 38% conversion disorder, 36% attention deficit hyperactivity disorder, 35% separation anxiety disorder, 33% social anxiety disorder, 30% conduct disorder, 25% anxiety disorder not otherwise specified, 23% obsessive compulsive disorder, 23% generalized anxiety disorder. Alcohol, tobacco and illicit drug abuse were described in 16%, 45% and 8% of the sample. The ADES and PSRI scores were higher in the depressive group. The number of comorbidities was higher in PTSD group. The number of comorbidities correlated with ADES ( $p:0.01$ ,  $r:0.317$ ) and the PSRI ( $p:0.001$ ,  $r:0.408$ ) scores. The ADES scores also correlated with the PSRI scores ( $p:0.0001$ ,  $r:0.46$ ).

**Conclusion:** DD is one of the most common disorders associated with traumatic experiences in the pediatric population. A recent study with 25 adolescents with DD from our clinic revealed that the most common comorbidities were MDD and PTSD. Our results support these findings with a bigger sample. In conclusion, DD is an important clinical diagnosis, which usually presents with high rates of psychiatric comorbidity in the adolescent age. The diagnosis of DD may be overshadowed by these comorbid conditions, which may be associated with late diagnosis.

**Keywords:** dissociative disorders, effects of trauma, psychiatric comorbidity

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## EATING DISORDERS

[Abstract:0143] *Eating disorders*

### The role of meta-cognitive beliefs in obesity

[Leman Inanc](#), [Sema Inanir](#)

Department of Psychiatry, Tokat Mental Health and Diseases Hospital, Tokat-Turkey  
e-mail address: leman.inanc@gmail.com

**Objective:** The purpose of this study is to compare metacognitive beliefs and body satisfaction on self-esteem between obese and non-obese healthy subjects. Research also aims to highlight the role of metacognitions in obesity and self-esteem in obese people. Despite the role of metacognition in psychopathology, there is no comprehensive data about obesity in this area.

**Methods:** 55 subjects with obesity and 47 healthy individuals as control group were recruited. Sociodemographic form, the Metacognitions Questionnaire 30 (MCQ-30), the Rosenberg Self-Esteem Scale, the Beck Anxiety Inventory and Beck Depression Inventory were administered to each volunteer. Body mass index (BMI) was calculated using weight and height measures. An individual with a BMI of 30 or higher is considered obese. Obesity was determined based on the age- and gender-specific BMI cut-off points of the International Obesity Task Force values.

**Results:** When we compared obese individuals and the healthy control group, we observed a statistically significant difference between the two groups in the mean total and subscale scores of MCQ-30 ( $p < 0.05$ ). Results show that there is a significant difference between obese and normal groups in uncontrollability and risk, positive beliefs about worry, cognitive trust, cognitive self-awareness, and need to thought controlling sub-scales ( $p < 0.05$ ). The obesity group demonstrated lower levels of self-esteem in comparison to their healthy counterparts ( $p < 0.05$ ). The results also indicate that being obese has a negative impact on self-esteem. Depression scores and anxiety scores of the obese group were higher than in the healthy group ( $p < 0.05$ ).

**Conclusion:** The comparison of obese and non-obese subjects demonstrates that a significant negative impact on self-esteem is derived from belonging to the obese category. The significant difference between obese and non-obese groups in uncontrollability and risk, positive beliefs about worry, cognitive trust, cognitive self-awareness, and thought control sub-scales highlight metacognitive activity that may play an important role in reinforcing negative self-evaluations and the maintenance of obesity. The difference between obese group and control group has led to the possibility that psychotherapy may play a key role in treatment by enhancing metacognitive processing. This might be used as a weight loss strategy for permanent behavior change. We suggest that not only dietitians but also a multidisciplinary team may examine these people.

**Keywords:** metacognition, obesity, self-esteem

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[Abstract:0301] *Eating disorders*

### Prevalence of binge eating disorder among patients with myocardial infarction

[Ugur Cakir](#)<sup>1</sup>, [Murat Semiz](#)<sup>2</sup>, [Fatma Erdem](#)<sup>3</sup>, [Okan Er](#)<sup>4</sup>, [Taha Tuman](#)<sup>1</sup>, [Ahmet Basara](#)<sup>5</sup>, [Burcin Colak](#)<sup>6</sup>, [Osman Yildirim](#)<sup>1</sup>, [Adem Balikli](#)<sup>2</sup>

<sup>1</sup>Department of Psychiatry, Abant Izzet Baysal University, Faculty of Medicine, Bolu-Turkey

<sup>2</sup>Department of Psychiatry, Gulhane School of Medicine, Ankara-Turkey

<sup>3</sup>Department of Cardiology, Abant Izzet Baysal University, Faculty of Medicine, Bolu-Turkey

<sup>4</sup>Department of Cardiology, Etimesgut Military Hospital, Ankara-Turkey

<sup>5</sup>Department of Cardiology, Mus State Hospital, Mus-Turkey

<sup>6</sup>Department of Psychiatry, Ankara University, Faculty of Medicine, Ankara-Turkey

e-mail address: ugur\_cakir@yahoo.com

**Objective:** This study has been aimed at investigating the prevalence of binge eating disorder (BED) among patients with MI and the relationship between eating attitudes and myocardial infarction (MI).

**Methods:** One hundred and thirteen consecutive patients with MI were enrolled into the study. 100 age-sex-matched healthy individuals were enrolled as a control group. Participants were given sociodemographic data form and Eating Attitudes Test (EAT) and then were

investigated for a diagnosis of lifetime BED through a semi-structured clinical interview. Body mass index (BMI) was calculated as weight /height<sup>2</sup> (kg/m<sup>2</sup>).

**Results:** Mean EAT scores in the MI and control groups were 22.6±6 and 18.2±8.2, respectively. Patients with MI had statistically significantly higher scores of EAT than those in the control group. Semi-structured clinical interview determined that the lifetime prevalence of the BED was 13.3% (n=15) in the MI group and 2% (n=2) in the non-MI group. The lifetime prevalence of BED was significantly higher among participants in the MI group as compared to those in the control group. Point prevalence of the BED in the MI and control groups were 7.1% (n=8) and 1% (n=1), respectively. The point prevalence of BED was significantly higher among participants in the MI group as compared to those in the control group.

**Conclusion:** The present study showed that BED is a common and important issue among patients with MI. Further studies are needed to research the long term effects of BED on patients with MI and the possible effects of BED treatment on MI prognosis.

**Keywords:** binge eating disorder, eating attitude, myocardial infarction

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### [Abstract:0552] *Eating disorders*

## Cognitive behavioral therapy for the treatment of obesity in women

[Mehmet Emrah Karadere](#), [Ece Yazla](#), [Esra Gul](#), [Halil Ibrahim Olcum](#)

Hitit University, Corum Training and Research Hospital, Corum-Turkey

e-mail address: karadere26@yahoo.com

**Objective:** Diet, exercise and behavior therapy are recommended for the treatment of obesity, which is an important health problem because of being associated with several adverse health conditions.

Some authors argue that cognitive change will improve long-term results of those programs. Our aim is to investigate the effects of cognitive behavioral group therapy on weight loss and psychopathology.

**Methods:** Patients who attended the Nutrition and Diet Outpatient Clinic of Hitit University Education and Research Hospital suffering from obesity were included in the study. 11 patients participated in the therapy group and 7 participated as control group voluntarily. The participants completed the sociodemographic data form which was designed by clinicians, Beck Depression Inventory (BDI), and the state-trait anxiety inventory (STAI-I, STAI-II). The treatment program consisted of routine diet and exercise programs for all participants and 14 group sessions of 90 minutes weekly for the therapy group.

**Results:** The control and therapy groups were found similar regarding age ( $p=0.069$ ), education ( $p=0.266$ ) and marital status ( $p=0.125$ ). There was no statistically significant difference in initial body weight (BW) ( $p=0.290$ ), body mass index (BMI) ( $p=0.421$ ), BDI ( $p=0.131$ ), STAI-I ( $p=0.919$ ) and STAI-II ( $p=0.070$ ) between the two groups. In the therapy group, a statistically significant difference was found between the initial and final BW ( $p=0.003$ ), BMI ( $p=0.003$ ), BDI ( $p=0.41$ ), STAI-II ( $p=0.007$ ). Only STAI-I ( $p=0.754$ ) was not found statistically significant. In the control group we did not find any statistically significant difference in the initial and final BW ( $p=0.917$ ), BMI ( $p=0.917$ ), BDI ( $p=0.344$ ), STAI-I ( $p=0.465$ ), STAI-II ( $p=0.528$ ).

**Conclusion:** Cognitive behavioral therapy was found effective for weight loss and decrease in some psychiatric symptoms. These findings support the results of similar studies. Long-term follow-up studies with more participants identifying this issue may help showing the effect of cognitive behavioral therapy on weight lost in obese people.

**Keywords:** CBT, obesity

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## ETHICS, LAW, HUMAN RIGHTS AND MENTAL HEALTH

[Abstract:0214] *Ethics, law, human rights and mental health*

### Evaluation of sexual satisfaction levels of physically disabled individuals

Gorkem Altintas, [Isil Gogcegoz Gul](#)

Department of Psychiatry, NP Istanbul Neuropsychiatry Hospital, Istanbul-Turkey  
e-mail address: [lsilggul@gmail.com](mailto:lsilggul@gmail.com)

**Objective:** It is well known that physically disabled individuals face a variety of problems in different areas of life, one of the most important areas being their sex life. The subject of sex life of physically disabled individuals has not been comprehensively evaluated. In this study, we researched sexual function and satisfaction levels associated with physical disabilities.

**Methods:** This study used comparative analysis to investigate survey results obtained from orthopedically handicapped and deaf (n=35) and able-bodied volunteers (n=50). The participants were evaluated by The Hamilton Rating Scale for Depression (HAM-D), The Hamilton Anxiety Rating Scale (HAM-A), Arizona Sexual Experiences Scale (ASEX) and Golombok-Rust Inventory of Sexual Satisfaction Scale (GRISS).

**Results:** Comparative analysis of ASEX and GRISS scores of the disabled and able-bodied showed that average results of the ASEX scale for the disabled were significantly higher compared to able-bodied, although there is no significant difference detected in GRISS scale results. Research data of Total GRISS Male Score as well as subscales showed that premature ejaculation levels of males with physical disabilities are significantly higher than in the control group. Research data of Total GRISS Female Score as well as subscales showed that vaginismus levels of females with physical disabilities are significantly higher than in the control group. However, there is no significant difference between the results of orthopedically handicapped and deaf persons. The study showed that physical disabilities adversely affect the sexual satisfaction and function.

**Conclusion:** It can be suggested that further clinical research with more participants who have disabilities and sexual education and counseling can be planned for physically disabled individuals.

**Keywords:** physical disabilities, sexual dysfunction, sexual satisfaction

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## EXERCISE AND SPORTS PSYCHIATRY

[Abstract:0302] *Exercise and sports psychiatry*

### Reliability and validity of Turkish Form of Baron Depression Screener for Athletes

Aslihan Polat<sup>1</sup>, Ugur Cakir<sup>2</sup>, Umit Karabulut<sup>3</sup>, Umit Tural<sup>1</sup>, David Baron<sup>4</sup>

<sup>1</sup>Department of Psychiatry, Kocaeli University, Faculty of Medicine, Kocaeli-Turkey

<sup>2</sup>Department of Psychiatry, Abant Izzet Baysal University, Faculty of Medicine, Bolu-Turkey

<sup>3</sup>Department of Psychiatry, Derince Teaching and Research Hospital, Kocaeli-Turkey

<sup>4</sup>Department of Psychiatry, University of Southern California Keck, Faculty of Medicine, California- USA

e-mail address: aslihanp@yahoo.com

**Objective:** This study aimed at studying validity and reliability of the Turkish form of the Baron Depression Screener for Athletes (BDSA), which is the only depression screening tool designed specifically for use with athletes.

**Method:** In total, 100 athletes, 76males and 24 females, participated in the study. Calculation of Cronbach's alpha and item-total correlation coefficient have been performed to assess the reliability of the Turkish form of BDSA. Explanatory factor analysis and Beck Depression Inventory (BDI) have been used to assess validity of the scale.

**Results:** Item-total score correlations for ten items BDSA vary between 0.12 and 0.53; the median value was 0.31. For overall BDSA, Cronbach's alpha coefficient was found to be  $\alpha=0.65$ . Factor analysis was conducted to determine the factor structure of the 10 items of BDSA using direct oblimin principal component analysis with varimax rotation. The factor solution yielded 3 factors with Eigenvalues  $>1$ , which explained 50.57% of the variance..

**Conclusion:** Results showed that the Turkish form of the Baron Depression Screener for Athletes is a valid and reliable instrument to assess depression among athletes speaking the Turkish language.

**Keywords:** assessment, Baron Depression Screener for Athletes, depression

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[Abstract:0348] *Exercise and sports psychiatry*

### Evaluation of health-related physical fitness parameters in patients with depression

Esin Damra Coban<sup>1</sup>, Abdurrahman Genc<sup>1</sup>, Kagan Ucok<sup>1</sup>, Kerem Senol Coskun<sup>2</sup>, Necip Fazil Coban<sup>1</sup>, Gokhan Akkan<sup>1</sup>, Idris Kaya<sup>1</sup>, Serkan Aslanalp<sup>1</sup>, Hasan Mayda<sup>2</sup>

<sup>1</sup>Department of Physiology, Afyon Kocatepe University, Faculty of Medicine, Afyonkarahisar-Turkey

<sup>2</sup>Department of Psychiatry, Afyon Kocatepe University, Faculty of Medicine, Afyonkarahisar-Turkey

e-mail address: dr.nfc177@gmail.com

**Objective:** Mental health problems continue to present a global challenge and contribute significantly to the global burden of human disease. Disease-related components such as physical fitness, daily energy expenditure, pulmonary functions, and quality of life are important parameters in physical rehabilitation of depressive patients. Therefore, the aim of this study is to compare physical fitness parameters (aerobic exercise capacity, muscle strength, trunk flexibility, and body composition), daily physical activity, pulmonary function, sleep, and life quality changes in patients with depression versus healthy controls as well as to investigate the associations among these parameters.

**Methods:** The patients were diagnosed with depression by trained psychiatrists using the Structured Clinical Interview for DSM-IV criteria. Eighty patients (40 male, 40 female) with depression and 80 healthy controls (40 male, 40 female) were included in this study. Handgrip strength and back-leg strength were measured with dynamometers; trunk flexibility was measured with a flexion meter; daily physical activity was monitored with a metabolic holter; pulmonary function tests were performed with a portable spirometer. Maximal aerobic capacity (VO<sub>2</sub>max) was estimated with Astrand submaximal exercise protocol. Body composition parameters were determined with a bioelectrical impedance analysis system. Waist, abdomen and hip circumference measurements were taken with a tape measure. Beck depression Inventory (BDI), Beck anxiety Inventory (BAI), Pittsburgh sleep quality index (PSQI), and SF-36 quality of life questionnaires were applied to all participants. The significance level was determined as P-value of 0.05 or less in statistical analysis.

**Results:** We found that handgrip and back-leg strengths and health-related quality of life were lower, waist/hip ratio, PSQI, BDI and BAI



scores were higher in female patients with depression, compared to healthy controls; whereas, VO<sub>2</sub>max and health-related quality of life were lower, and daily sleep duration and PSQI, BDI and BAI scores were higher in male patients with depression, compared to healthy controls. Other parameters were not significantly different between the patients and the controls. In female patients, the BDI and BAI scores were negatively correlated with the strength measurements and SF-36 score, but positively correlated with the PSQI score. In male patients, the BDI and BAI scores were negatively correlated with the SF-36 score but positively correlated with the PSQI score. Also the BDI score showed positive correlation with the daily sleep duration in the male patients. In both male and female patients, the BAI score showed positive correlation with the VO<sub>2</sub>max.

**Conclusion:** This study revealed that handgrip and back-leg strengths, life and sleep qualities, and anxiety symptomatology were impaired in female depressive patients, as compared to healthy controls, whereas aerobic exercise capacity, daily sleep duration, life and sleep qualities were impaired in male depressive patients, as compared to healthy controls. We suggest that paying attention to the decline in muscle strength in female patients with depression and decreased aerobic exercise capacity in male patients with depression affecting exercise treatment planning might be helpful for the development of more beneficial strategies for illness management.

**Keywords:** aerobic exercise capacity, depression, muscle strength

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### [Abstract:0488] *Exercise and sports psychiatry*

## Association analyses of sleep quality, anxiety, depression, daily physical activity, and body composition in young adults

Naci Sener<sup>1</sup>, Kagan Ucok<sup>1</sup>, Ahmet Hamdi Alpaslan<sup>2</sup>, [Necip Fazil Coban](#)<sup>1</sup>, Esin Damra Coban<sup>1</sup>, Gokhan Akkan<sup>1</sup>, Sedat Aydin<sup>1</sup>, Yusuf Elmal<sup>1</sup>, Halil Ibrahim Guzel<sup>3</sup>

<sup>1</sup>Department of Physiology, Afyon Kocatepe University, Faculty of Medicine, Afyonkarahisar-Turkey

<sup>2</sup>Department of Child and Adolescent Psychiatry, Afyon Kocatepe University, Faculty of Medicine, Afyonkarahisar-Turkey

<sup>3</sup>Department of Psychiatry, Afyon Kocatepe University, Faculty of Medicine, Afyonkarahisar-Turkey

e-mail address: dr.nfc177@gmail.com

**Objective:** The relations between sleep quality, psychological status, and physical activity have been investigated in occupational or patient groups. The aims of this study were to compare sleep quality, anxiety, depression, physical activity, body mass index (BMI), and body composition changes in male and female young adults as well as to investigate the associations among these parameters.

**Methods:** In total, 660 healthy young adults (330 male, 330 female) were included in this study. Body composition parameters (body fat percentage and lean body mass) were determined with a bioelectrical impedance analysis system. BMI was calculated as the body weight divided by the square of the height (kg/m<sup>2</sup>). All participants completed the physical activity questionnaire (short form), the Pittsburgh Sleep Quality Index (PSQI), the Beck anxiety inventory (BAI), and the Beck Depression Inventory (BDI) questionnaires.

**Results:** We found that the BMI, lean body mass, vigorous physical activity time, moderate physical activity time, and total physical activity were higher in the men, compared to the women. The body fat percentage, BAI and PSQI scores were higher in the women, when compared to the men. The PSQI score showed positive correlations with the BAI, BDI, BMI and body fat percentage in both genders. In addition, the PSQI score showed positive correlations with the sitting time in the women. However, the PSQI score showed negative correlations with the vigorous physical activity time and total physical activity in the men. The BAI score was negatively correlated with the vigorous physical activity in the men. However, the BAI score was positively correlated with the BMI, body fat percentage and sitting time, but negatively correlated with the total physical activity in the women. The BDI score was negatively correlated with the vigorous physical activity time and total physical activity, but positively correlated with the sitting time in the men. The BDI score was positively correlated with the BMI and body fat percentage, but negatively correlated with the walking time in the women.

**Conclusion:** In young adults, lower sleep quality, and moderate to vigorous physical activity and higher anxiety score were found in the female, as compared to the male. The sleep quality is negatively related to the anxiety and depression symptomatology, BMI, and adiposity, but positively related to the physical activity, in both genders. Nevertheless, the anxiety and depression symptomatology are negatively related to the physical activity in both genders, but positively related to the BMI, and adiposity in the female. We suggest that the consideration of associations among sleep quality, anxiety, depression, physical activity, and body composition in male and female young adults might be helpful for the development of more beneficial preventive medicine strategies.

**Keywords:** sleep quality, psychological status, physical activity

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## FORENSIC PSYCHIATRY

[Abstract:0175] *Forensic psychiatry*

### Research of determinative factors in completed suicide by psychological autopsy

[Kader Semra Karatas<sup>1</sup>](#), [Feyzi Sahin<sup>2</sup>](#), [Sinan Sevinc<sup>2</sup>](#)

<sup>1</sup>Department of Psychiatry, Rize State Hospital, Rize-Turkey

<sup>2</sup>Department of Morgue, Istanbul Council of Forensic Medicine, Istanbul-Turkey

e-mail address: drsemraocak@yahoo.com

**Objective:** Suicide is defined as an action through which a person deliberately punishes him/herself. In other words, suicide is a pathologic behavior which if the actor succeeds results in death. Suicide is a common problem in the world. In many countries, it is hard to determine the prevalence of suicide, because the act is often concealed. Psychological autopsy is a retrospective approach to evaluating completed suicides, based on information received from the dead person's relatives through structured interview forms. These forms are investigating the deceased's demographics, recent symptoms and behavior, precipitants, psychiatric history, substance abuse, family history, medical and legal records. With this interview, clinicians are seeking to evaluate determinative factors for the suicidal action. The aim of this study is to research the determinative factors prompting someone to commit suicide and to prevent suicidal deaths.

**Methods:** Suicide cases have been selected after postmortem examination and autopsy in the Council of Forensic Medicine Morgue Department in 2010-2011 November. Relatives of the deceased who accepted to join the study have been interviewed. Systematic inquiry was made through semi-structured forms using DSM or ICD criteria for diagnostic evaluation administered to the relatives by interviewers. The form were given to the relatives by a forensic medicine specialist under the control of a psychiatrist.

**Results:** There were 40 suicide cases; 82.5% of them were male and 17.5% female. The average age of females was 25, of males 39. Among the methods of suicide, 60% were hanging, 15% gunshot wounds, 10% general body traumas, 5% drowning, 5% poisoning, 2.5% electrocution, 2.5% stab wounds. 25% of person had been planning suicidal action, 25% of person left suicide notes. 30% of cases had previously attempted suicide. The most important predisposing factor is migration from a rural area to an urban center and the next causes are financial losses and familiar conflicts. 45% of cases have psychiatric disorders, the most common one being depressive disorder (55%) and the second one bipolar disorder (17.5%); other conditions were anxiety disorder (7.5%), personality disorder (7.5%), substance abuse (7.5%), obsessive compulsive disorder (2.5%), and schizophrenia (2.5%).

**Conclusion:** Suicide is a complex behavior in which clinicians need to take into account biological, psychological, and sociological factors. Suicide causes include many factors; therefore, holistic research must be done to understand this phenomenon. To assess the risk of suicidal behavior it is important to evaluate age, sex, psychiatric diseases, psycho-social support, and the accessibility of lethal weapons. Understanding the act of suicide and motives behind suicidal behavior are important for preventing suicidal deaths. There is no standardized protocol for semi-structured psychological autopsy. This study is pioneering multicenter psychological autopsy research. In the future psychological autopsy can be used more frequently and in cooperation between institutions that are pooling information about the determinative factors of suicide.

**Keywords:** Psychological autopsy, suicide, depressive disorder

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[Abstract:0292] *Forensic psychiatry*

### Evaluation of forensic psychiatric cases: a four-year review

[Huseyin Balandiz<sup>1</sup>](#), [Abdullah Bolu<sup>2</sup>](#), [Harun Tugcu<sup>1</sup>](#)

<sup>1</sup>Department of Forensic Medicine, Gulhane School of Medicine, Ankara-Turkey

<sup>2</sup>Aircrew's Health Research and Training Center, Eskisehir-Turkey

e-mail address: abduallah\_bolu@yahoo.com

**Objective:** This study aims to identify the psychiatric conditions of cases required to be examined psychiatrically, by analyzing retrospectively the forensic reports prepared by the Department of Forensic Medicine of Gulhane Military Medical Academy.

**Methods:** Forensic reports prepared by the Department of Forensic Medicine of Gulhane Military Medical Academy between January 1,

2011 and November 30, 2014 were examined retrospectively.

**Results:** During a four-year period, 2408 cases were assessed by the Department of Forensic Medicine. Of these cases, 158 (6.5%) were needed to be examined psychiatrically. Of the 158 cases, 98.7% (n=156) were male and 1.3% (n=2) were female. The vast majority of cases (51.3%, n=81) consisted of private soldier rank while a few cases were related to civilians (1.9%, n=3). As a consequence of psychiatric examination, the relevant cases were most commonly diagnosed with anxiety disorder (44.9%, n=71). Post-traumatic stress disorder (18.3%, n=29) was the second most common of the cases with which they were diagnosed. Psychopathology was not detected in several (n= 6, 3.8%) of these cases. The cases to be psychiatrically evaluated were referred to the Psychiatry Polyclinic etiologically because of firearm injuries (39.2%, n=62), explosives injuries (25.3%, n=40), accidentally blunt traumatic injuries (13.3%, n=21) and battery (11.4%, n=18). 43% (n=68) of the cases referred to Psychiatry Polyclinic to be evaluated were to undergo an outpatient treatment while 57% (n=90) of them were referred to inpatient treatment. Workforce loss ratio was calculated in 90 of 158 cases and in 53.3% (n=48) of these cases it was determined as >1%, while there were no malfunctions needed to be calculated for workforce loss ratio in psychiatric terms in 46.6% (n=42) of 90 cases.

**Conclusion:** There are many notable aspects of the study. The most important ones are that a psychiatric assessment was needed due to the exposure to life events which had caused bodily injuries in a large majority of the cases, and that the ratio of anxiety disorders was higher and the ratio of post-traumatic stress disorder was relatively higher as compared to other psychiatric diagnoses. A very limited number of studies have been carried out for the cases in the field of forensic psychiatry in our country. These studies were also associated with whether the mania level of substance uses was being psychiatrically evaluated by the relevant courts, and with the assessment of criminal responsibility.

**Keywords:** forensic, military, psychiatric

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**[Abstract:0337] Forensic psychiatry**

## Investigation of psychiatric pathologies in subjects who apply to the health board

Kadir Demirci, Abdullah Akpınar, Gulın Ozdamar Unal, Ayse Rumeysa Yaman, Arif Demirdas, İnci Meltem Atay, Duru Gundogar

Department of Psychiatry, Suleyman Demirel University, Faculty of Medicine Isparta-Turkey  
e-mail address: drrumeysayaman@gmail.com

**Objective:** One of the study areas of psychiatry is the health board. No studies were available in the literature about psychiatric pathologies of subjects who applied to the health board in Turkey. The aim of this study is to investigate psychiatric pathologies in subjects who apply to the health board.

**Methods:** In this study, the files of 1208 cases who applied to the Health Board of our hospital during one year between 1 January 2013 and 31 December 2013 were analyzed retrospectively. The gender, age, psychiatric diagnoses of patients and the purpose of receiving report, general and psychiatric disability rates, the duration of report, and severe disability status were examined.

**Results:** Of the 1208 cases analyzed, 1036 (85.76%) were of age 18 or above and 172 (14.24%) were below 18 years old. Of the 1036 adult cases, 667 (64.4%) were male and 369 (35.6%) were female. Psychiatric pathologies were determined in a total of 151 (14.6%) adult cases. The most common pathologies were mental retardation (n=39; 25.8%), schizophrenia (n=31; 20.5%), and depression (n=27; 17.9%). The highest psychiatric disability rate was in schizophrenia and the lowest psychiatric disability rate was in anxiety disorders. The general average of disability in those who have a psychiatric disability was significantly higher than of those without psychiatric disability ( $p<0.001$ ). The number of severely disabled in those with psychiatric disability was found to be significantly higher than among those without psychiatric disability ( $p=0.017$ ).

**Conclusion:** This study was performed as a contribution to the epidemiologic data about psychiatric diseases in our country. Our study has shown that psychiatric pathologies are frequently seen in cases who apply to the health board.

**Keywords:** disability, health board, psychiatry

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## MOOD DISORDERS

### [Abstract:0168] *Mood disorders*

## Effects of cortisol and brain-derived neurotropic factor on the serotonin transporter in the midbrain of bipolar I disorder

Yi An Tu<sup>1</sup>, Shyh Jen Wang<sup>2</sup>, Yuan Hwa Chou<sup>1</sup>

<sup>1</sup>Department of Psychiatry, Taipei Veterans General Hospital, Taipei-Taiwan

<sup>2</sup>Department of Nuclear Medicine, Taipei Veterans General Hospital, Taipei-Taiwan

e-mail address: tu\_yian@yahoo.com.tw

**Objective:** Studies have demonstrated an association between cortisol levels and availability of the serotonin transporter (SERT) in healthy subjects and in those with major depressive disorder (MDD). We evaluated if this association could be observed in bipolar disorder (BD). In addition, a second biomarker, brain-derived neurotropic factor (BDNF), was considered to test the influence of the BDNF level on SERT availability in BD.

**Methods:** Twenty-eight subjects with euthymic BD type I as well as 28 sex- and age-matched healthy controls (HCs) were recruited. 123I-ADAM with single-photon emission computed tomography (SPECT) was applied for measurement of SERT availability in the brain. Ten milliliters of venous blood were taken when the subject underwent SPECT for measuring plasma levels of cortisol and BDNF. The simple ratio method was used for calculation of SERT availability.

**Results:** A significant decrease in SERT availability in BD compared with HCs was noted, whereas plasma levels of cortisol and BDNF did not show a significant difference. Linear regression analyses showed that changes in SERT availability could be explained only by plasma levels of cortisol but not by BDNF levels and their interaction in HCs. Notably, this phenomenon was not observed in BD patients. These data suggest that the association of cortisol level and SERT availability seen in HCs appears to be disrupted in BD patients.

**Conclusion:** Our data demonstrate not only a disruption in the relationship between cortisol level and SERT availability in BD, but also imply a different role of cortisol regulation of the SERT between MDD and BD.

**Keywords:** bipolar disorder, serotonin transporter, cortisol

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### [Abstract:0169] *Mood disorders*

## Relationship of cytokines with brain serotonin transporter in bipolar I disorder

Li Chi Chen<sup>1</sup>, Shyh Jen Wang<sup>2</sup>, Yuan Hwa Chou<sup>1</sup>

<sup>1</sup>Department of Psychiatry, Taipei Veterans General Hospital, Taipei-Taiwan

<sup>2</sup>Department of Nuclear Medicine, Taipei Veterans General Hospital & National Yang Ming University, Taipei-Taiwan

e-mail address: unichelichi@gmail.com

**Objective:** The aim of this study was to investigate the interaction of cytokines and brain serotonin transporter (SERT) in bipolar disorder (BD).

**Methods:** Twenty-eight BD type I patients and 28 age- and sex-matched healthy controls (HCs) were recruited. Single photon emission computed tomography with the radiotracer 123I-ADAM was used for the SERT image. Regions of interest included the midbrain, thalamus, putamen and caudate. Seven cytokines included tumor necrosis factor- $\alpha$  (TNF- $\alpha$ ), interferon- $\gamma$  (IFN- $\gamma$ ), interleukin-1 $\alpha$  (IL-1 $\alpha$ ), IL-1 $\beta$ , IL-4, IL-6 and IL-10 were measured using an enzyme-linked immune-sorbent assay. Four ratios included IFN- $\gamma$ /IL-4, IFN- $\gamma$ /IL-10, IL-1 $\beta$ /IL-6, and IL-1 $\beta$ /IL-10 was compared and correlated with the SERT availability between BD and HCs.

**Results:** The SERT availability in the midbrain and caudate was significantly lower in BD than in HCs. IL-1 $\beta$  was significantly lower, whereas IL-10 was significantly higher in BD than those in HCs. The ratio of IL-1 $\beta$ /IL-10 was significantly lower in BD compared with HCs. Pearson's correlation showed that IL-1 $\alpha$  was significantly correlated with the SERT availability in the midbrain and caudate, TNF- $\alpha$  was significantly correlated with the SERT availability in the thalamus in HCs. However, these correlations cannot be found in BD. A stepwise

regression analysis considering all cytokines supported the correlation results. Only the ratio of IL-1 $\beta$ /IL-6 was well correlated with the SERT availability in the caudate.

**Conclusion:** This study for the first time demonstrates the association of different cytokines on the SERT availability in different brain regions. Apparently, IL-1 $\alpha$  plays an important role in regulating the SERT availability in HCs, but this relationship was disrupted in BD.

**Keywords:** bipolar disorder, serotonin transporter, pro-inflammatory cytokines

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**[Abstract:0281] Mood disorders**

## Effects of traumatic experiences on coping skills in patients with unipolar depression

Ahmet Gul<sup>1</sup>, Nurper Erberk Ozen<sup>2</sup>, Hesna Gul<sup>3</sup>

<sup>1</sup>Department of Psychiatry, Necip Fazil City Hospital, Kahramanmaraş-Turkey

<sup>2</sup>Department of Psychiatry, Ufuk University, Ankara-Turkey

<sup>3</sup>Department of Child and Adolescent Psychiatry, Necip Fazil City Hospital, Kahramanmaraş-Turkey

e-mail address: mdahmetgul@gmail.com

**Objective:** The aim of this study is to evaluate the impact of traumatic childhood experiences in adults, determine its effects on coping skills and assess the influence of depressive, dissociative and anxiety symptoms in patients with unipolar depression.

**Method:** Fifty female and fifty male patients with unipolar depression were enrolled. All patients were administered sociodemographic data form, Beck Depression and Beck Anxiety Inventory, COPE Scale, and Dissociative Experiences Scale (DES). Experiences of childhood abuse and neglect were assessed by Childhood Trauma Questionnaire (CTQ-28).

**Results:** It was found that female patients with childhood trauma used emotion-focused coping styles whereas male patients used problem-focused and "less useful" coping styles more frequently. This study revealed that there were many gender differences among patients with traumatic experiences in terms of coping styles. Male and female patients with childhood traumatic experiences had a worse clinical course of disease such as higher severity of depression, anxiety and dissociative symptoms. In addition, differences were found in the severity of depression, anxiety and dissociative symptoms between the types of abuse and neglect.

**Conclusion:** Our results show that the majority of the patients with depression had suffered childhood trauma. Childhood traumas were likely to affect the course of depression negatively. Rigorous questioning of the traumatic history of the subjects, accompanying anxiety and dissociative symptoms and specifying the coping styles used seems crucial for understanding their role in the development of depression and comorbid psychiatric disorders, determining the treatment objectives and monitoring the therapeutic effectiveness.

**Keywords:** childhood trauma, coping skills, depression

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**[Abstract:0317] Mood disorders**

## Mean platelet volume and first-episode major depression

Abdullah Akpınar<sup>1</sup>, Ercan Varol<sup>2</sup>, Gozde Bacik Yaman<sup>3</sup>, Kadir Demirci<sup>1</sup>, Inci Meltem Atay<sup>1</sup>, Arif Demirdas<sup>1</sup>

<sup>1</sup>Department of Psychiatry, Suleyman Demirel University, Faculty of Medicine, Isparta-Turkey

<sup>2</sup>Department of Cardiology, Suleyman Demirel University, Faculty of Medicine, Isparta- Turkey

<sup>3</sup>Department of Psychiatry, Finike State Hospital, Antalya- Turkey

e-mail address: abdakpinar@hotmail.com

**Objective:** Cardiovascular diseases and cardiovascular risk factors are more frequently encountered in depressive patients. Mean platelet volume (MPV) measurement is a simple and easy method of assessing platelet function. The aim of this study was to assess the MPV levels in patients with first-episode depression.

**Methods:** The study included 61 patients with depression and 61 control subjects. MPV values were measured in all study patients and control subjects. Age, gender and body mass index were matched. There was no history of cardiovascular disease in patients and controls.

Depression was diagnosed by Structured Clinical Interview for DSM-IV-TR. Depression severity was evaluated by the Montgomery-Asberg Depression Rating Scale.

**Results:** There was no significant difference in MPV values between patients with depression and controls ( $8.0 \pm 1.1$  vs.  $8.1 \pm 0.8$  fL, respectively;  $p=0.27$ ). Also no significant difference in platelet counts was found ( $251.3 \pm 57.9$  vs.  $248.2 \pm 56.3 \times 10^9/L$ , respectively;  $p=0.76$ ). There was no correlation between MPV and MADRS score ( $p=0.10$ ,  $r=-0.20$ ), and depression duration ( $p=0.60$ ,  $r=-0.06$ ).

**Conclusion:** In contrary to previous studies, we have found no association of MPV in patients with first episode depression.

**Keywords:** depressive disorder, mean platelet volume, platelet activation

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### [Abstract:0433] *Mood disorders*

## Association between problematic internet use and suicidal behavior in adolescents with major depressive disorder

Ahmet Hamdi Alpaslan<sup>1</sup>, Ugur Kocak<sup>2</sup>, Nusret Soylu<sup>3</sup>, Kerem Senol Coskun<sup>4</sup>, Halil Ibrahim Guzel<sup>4</sup>

<sup>1</sup>Department of Child and Adolescent Psychiatry, Afyon Kocatepe University, Faculty of Medicine, Afyonkarahisar-Turkey

<sup>2</sup>Department of Forensic Medicine, Afyon Kocatepe University, Faculty of Medicine, Afyonkarahisar-Turkey

<sup>3</sup>Department of Child and Adolescent Psychiatry, Inonu University, Faculty of Medicine, Malatya-Turkey

<sup>4</sup>Department of Psychiatry, Afyon Kocatepe University, Faculty of Medicine, Afyonkarahisar-Turkey

e-mail address: ahmethamdialpaslan@yahoo.com

**Objective:** We aimed to examine the association between suicidal behavior and Problematic Internet Use (PIU) in a clinical adolescent population and additionally to examine whether PIU mediate the relationship between major depressive disorder (MDD) and suicidal behavior.

**Methods:** The study sample consisted of ( $n=120$ ) MDD patients and a control group ( $n=100$ ). Members of the MDD group were newly diagnosed. Suicide ideation and suicide attempts were evaluated, and socio-demographic data were collected. Additionally, Children's Depression Inventory (CDI), Young Internet Addiction Test (YIAT), and Suicide Probability Scale (SPS) were applied.

**Results:** The results showed that PIU rates ( $\chi^2=27.26$ ,  $p<0.001$ ) and the YIAT scores ( $t=7.54$ ,  $p<0.001$ ) were significantly higher in the MDD cases than in healthy controls. In terms of PIU rates, the comparison of MDD patients with and without suicidal attempt revealed that there was no significant difference between groups ( $\chi^2=2.35$ ,  $p=0.188$ ). However, the YIAT scores were found significantly higher in the MDD group without suicidal attempt than in those with suicide attempt ( $t=2.17$ ,  $p=0.032$ ). When comparing the MDD cases with and without suicidal ideation, there was no significant difference between these groups both in terms of PIU rates ( $\chi^2=0.04$ ;  $p=0.837$ ) and YIAT scores ( $t=0.21$ ;  $p=0.830$ ). MDD cases with and without PIU were compared regarding to the CDI and SPS scores. Hopelessness subscale score of SPS were found to be significantly higher in the MDD group with PIU ( $t=3.10$ ;  $p=0.002$ ). Finally no significant difference was found between the groups concerning the CDI scores ( $t=1.11$ ;  $p=0.271$ ).

**Conclusion:** We suggest further studies with larger sample sizes sample of adolescents. Preferably, a prospective approach needs to be conducted to confirm these results as well as establishing strategies for better detection and management of PIU and suicidal behavior when working with adolescents with MDD.

**Keywords:** major depressive disorder, problematic internet use, suicidal behavior

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**[Abstract:0484] Mood disorders****Abnormal temperament in obese patients**[Ali Askar, Ebru Findikli](#)

Department of Psychiatry, Kahramanmaraş Sutcu Imam University, Faculty of Medicine, Kahramanmaraş-Turkey  
 e-mail address: allAskar86@hotmail.com

**Objectives:** Obesity has been considered as “an epidemic phenomenon”, showing a current prevalence of 10–35%. Therapeutic interventions include dietary programs, cognitive–behavioral therapy, appetite inhibiting drugs, surgical interventions such as gastric banding and physical exercise. Suggested pathogenic factors include among other things: Increased dietary energy intake and decreased energy expenditure, genetic susceptibility, as well as endocrinological and behavioral alterations. Recent research in psychiatry has suggested a positive relationship between obesity and mood disorders, especially for major depression and bipolar disorder. Other studies have revealed temperamental abnormalities, greater novelty seeking in obese patients, using the Temperament and Character Inventory of Cloninger. The aim of the present study was to identify differences in abnormal temperament in 101 obese and 100 control subjects.

**Methods:** Between May and November 2014 a total of 101 obese patients were referred to our psychiatry clinic and were consecutively evaluated regarding suitability for surgical intervention. All patients were asked to complete the following self-rating battery: Temperament evaluation of Memphis, Pisa, Paris and San Diego Auto questionnaire (TEMPS-A). Statistical analyses were performed using the statistics software SPSS version 17.0 (Statistical package for the Social Sciences, version 17.0).

**Results:** No significant differences in sex, marital status and educational level were found. Sixteen of 101 (15.8%) in the obese group in comparison to twenty six of 100 (26%) in the control group were rated as showing at least one abnormal temperament. The two groups did not differ significantly regarding the mean number of abnormal temperaments ( $p=0.11$ ). In total, 6 patients in the obese group were classified as abnormal in the depressive, 1 in the cyclothymic, 2 in the hyperthymic, 4 in the irritable and 8 in the anxious temperament. In the control group 18 patients exhibited a depressive, 2 a cyclothymic, 0 a hyperthymic, 6 an irritable and 9 an anxious temperament. The control group scored significantly higher in the depressive temperament ( $p=0.016$ ). No significant differences were found in cyclothymic, hyperthymic, irritable and anxious temperaments between two groups.

**Conclusion:** A limitation of our study is that psychiatrically healthy individuals were selected as a control group. The lack of significant group differences in the cyclothymic, hyperthymic, irritable and anxious temperaments may have been due to these “hypernormal” individuals. This study represents the first use of TEMPS-A to evaluate abnormal temperaments in obese persons in Turkey. Our results need replication. However, the association of obesity with psychiatric diseases has been pointed by previous studies. Temperament subtypes have the potential to add an important predisposing factor for the development of this hard-to-treat disease.

**Keywords:** temperament, obesity, surgical treatment

**Bulletin of Clinical Psychopharmacology 2015;25(Suppl. 1):S141**

**[Abstract:0554] Mood disorders****Depression levels of inpatients in Ardahan State Hospital**[Mehmet Fatih Yilmaz, Can Sait Sevindik](#)

Department of Psychiatry, Ardahan State Hospital, Ardahan-Turkey  
 e-mail address: spllect@yahoo.com

**Objective:** Among patients with physical illnesses, depression is the most common psychiatric disorder, and it has a negative impact on patients’ work, family, and social relations as well as current physical condition. In this study inpatients of Ardahan State Hospital were inspected for their depression levels and the compression of the illnesses.

**Methods:** Between November and December of 2013, 196 patients hospitalized in internal branches of Ardahan State Hospital, Sociodemographic form, the Hospital Anxiety and Depression Scale (HADS) were used. Results were evaluated with ANOVA and Tukey HSD by using SPSS v17.0.

**Results:** Thirty-five Chronic Obstructive Pulmonary Disease (COPD), 33 Osteoarthritis (OA), 30 Back Pain (LP), 33 Hypertension (HT), 30 Diabetes Mellitus (DM) and 35 patients from other diseases were enrolled in the study. There were no significant differences between sexes, but OA patients were statically older. When The cut-off value was 7 for Depression sub-scale, 74.8% of COPD, 48.5% of OA, 60% of

LP, 30% of HT, 56.7% of DM and 34.3% of the patients were over 7 points. When diseases were compared to each other, COPD patients' depression levels were higher than HT and others, BP patients' were higher than others.

**Conclusion:** Depression causes disability, and when physically ill patients suffer from depression, their life quality is extremely lowered. In the literature we could not find any study comparing illnesses. In this study, COPD and BP patients scored higher points for depression. 74.8% of COPD patients scored over 7 on the HADS-D scale, which was higher than expected. In the literature, Van Ede et al. reported depression rates of up to 42% . In our study high depression rates may be a result of relatively low cut-off scores and a lack of social support of our patients (as 82.9% of them reported); additionally, most of the studies in the literature have been conducted with outpatients. The rate of BP patients was also high at 60% LP. Vereckei et al. found 49% of inpatients with back pain to be suffering depression using Beck Depression Scale. Pain in BP patients is continuous, therefore they tend to be depressed. Depression rates are high in all inpatients with chronic illnesses, so patients must be evaluated carefully.

**Keywords:** depression, COPD, inpatient

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**[Abstract:0564] Mood disorders**

## Evaluation of oxidative metabolism and urotensin-II levels in patients with bipolar disorder mania

Gokay Alpak<sup>1</sup>, Feridun Bulbul<sup>1</sup>, Osman Virit<sup>1</sup>, Bahadir Demir<sup>1</sup>, Ahmet Unal<sup>1</sup>, Mehmet Tarakcioglu<sup>2</sup>, Haluk A. Savas<sup>1</sup>

<sup>1</sup>Department of Psychiatry, Gaziantep University, Faculty of Medicine, Gaziantep-Turkey

<sup>2</sup>Department of Biochemistry, Gaziantep University, Faculty of Medicine, Gaziantep-Turkey

e-mail address: gokayalpak@gmail.com

**Objective:** In this study we aimed to investigate the levels of oxidative metabolism and urotensin II (U-II) levels in euthymic bipolar patients.

**Methods:** Sixty patients who were diagnosed with bipolar disorders in remission period according to DSM-IV TR and 57 healthy controls were recruited into this study. The levels of total antioxidant status (TAS), total oxidant status (TOS), oxidative stress index (OSI), nitric oxide (NO), and U-II were calculated in the laboratory of the Department of Biochemistry in Gaziantep University.

**Results:** When the levels of patients' and healthy controls' TOS, OSI and NO compared, patients had significantly higher levels whereas healthy controls' U-II and TAS levels were significantly lower than patients' (p values: 0.005, 0.001, 0.001, 0.001 and 0.004, respectively).

**Conclusion:** The relationship between the effects of U-II on behavior, physiology (sleep...etc.), and oxidative metabolism has been shown in animal studies. The results of this study can be interpreted to mean that U-II molecules may play an important role in the clinical picture of bipolar manic patients and the oxidative metabolism related with the disorder. There is a need for the continuation of preclinical studies that are related with the exact role of U-II in central nervous system and clinical studies that investigate different episodes of bipolar patients as well as those in remission with large sample size.

**Keywords:** bipolar disorder, urotensin II, oxidative stress

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**[Abstract:0689] Mood disorders****Affective temperaments of chronic renal failure and renal transplantation patients**

[Ebru Findikli<sup>1</sup>](#), [Yasemin Coskun Yavuz<sup>2</sup>](#), [Ekrem Dogan<sup>2</sup>](#), [Huseyin Avni Findikli<sup>3</sup>](#), [Hatice Altun<sup>4</sup>](#), [Melike Yavuz<sup>5</sup>](#), [Mehmet Fatih Karaaslan<sup>1</sup>](#)

<sup>1</sup>Department of Psychiatry, Kahramanmaraş Sutcu Imam University, Faculty of Medicine, Kahramanmaraş-Turkey

<sup>2</sup>Department of Nephrology, Kahramanmaraş Sutcu Imam University, Faculty of Medicine, Kahramanmaraş-Turkey

<sup>3</sup>Department of Internal Medicine, Adiyaman University, Faculty of Medicine, Adiyaman-Turkey

<sup>4</sup>Department of Child and Adolescent Psychiatry, Kahramanmaraş Sutcu Imam University, Faculty of Medicine, Kahramanmaraş-Turkey

<sup>5</sup>Department of Public Health, Provincial Health Directorate, Kahramanmaraş-Turkey

e-mail address: ebrukanmaz@gmail.com

**Objective:** Chronic renal failure (CRF) is a complex illness with both physical and psychological implications for the patient. The most common psychiatric complication occurring as a result of renal failure is depression and comorbid anxiety. Previous studies have demonstrated that dialysis patients have higher suicide rates than the normal healthy population. Extreme anxiety and anxiety somatic symptoms such as breathlessness, palpitations, chest pain, sweating, and fear of dying may occur in CRF cases. Following transplantation body image problems may ensue, primarily arising from the introduction of the new organ and from the damaging side effects of steroid medication. While some researchers report that psychiatric morbidity and disability of CRF are high and that there is no difference between the chosen treatment modalities, most of them found that transplantation is more advantageous than dialysis, and quality of life is better in transplant patients. On the other hand, some researchers claim that psychological adjustment varies during the treatment of CRF and psychiatric symptoms decrease with time. Temperament features are early-appearing, core personality traits, showing relative stability with some change over time. The concept of affective temperaments has been developed by Akiskal et al. Affective temperament describes attitudes and behaviors standing on structural, genetic and biological bases. It is possible to see it as a feature of the personality without affective disorders or a basis of affective disorders, like depression or bipolar disease, throughout life. Five dominant affective temperaments are described: depressive, hyperthymic, cyclothymic, irritable and anxious.

**Methods:** The aim of this study was to evaluate the affective temperament profiles of end-stage renal disease patients in four subgroups. The subgroups were patients at predialysis stage, undergoing hemodialysis and peritoneal dialysis and of renal transplantation. The study population consisted of 28 predialysis patients (14 female, 14 male), 30 hemodialysis patients (13 female, 17 male), 22 peritoneal dialysis patients (13 female, 9 male), 42 transplantation patients (19 female, 23 male) and 100 age- and gender-matched healthy control subjects (66 female, 34 male). All participants were instructed to complete a self-administered TEMPS A and the Hospital Anxiety and Depression Scale (HADS).

**Results:** Most of our cases and controls had no dominant affective temperaments (74 percent of healthy controls, 35 percent of transplantation patients, 20 percent of predialysis patients, 18 percent of peritoneal dialysis patients and 22 percent of hemodialysis patients). Depression rates were 11%, 12%, 12%, 18% and anxiety rates were 8%, 4%, 4%, 8% in predialysis, hemodialysis, peritoneal dialysis and transplantation patients, respectively.

**Conclusion:** This is the first investigation that determines the affective temperaments of CRF patients. CRF is generally comorbid with psychiatric illnesses. Treatment approach to these patients must be multidimensional. Psychiatric analysis and applications will be useful to determine the adequate treatment approach and increase the quality of life, which is very low in CRF patients.

**Keywords:** affective temperament, end-stage renal disease, transplantation

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**[Abstract:0743] Mood disorders****Antidepressant-like effects of gallic acid: dual effect on serotonergic and catecholaminergic neurotransmissions**

Nazli Turan, Ozgur Devrim Can, Yusuf Ozturk

Department of Pharmacology, Anadolu University, Faculty of Pharmacy, Eskisehir-Turkey  
 e-mail address: nazlituran@anadolu.edu.tr

**Objective:** Gallic acid (GA), 3,4,5-trihydroxybenzoic acid, is a phenolic acid derivative and a natural polyphenol found in tea leaves, grapes, berries and plants like Thuja, Quercus, Rhus, Camelia. Several studies have described the antidepressant-like activity of GA. However, pharmacological mechanisms underlying this effect have not yet been clarified. Therefore, in this study, we planned to investigate possible mechanisms underlying the antidepressant-like activity of gallic acid (GA).

**Methods:** Adult BALB/c female mice, weighing 30–35 g, were used for the experiments. The putative antidepressant-like effect of GA (30 and 60 mg/kg) was investigated using modified forced swimming test (MFST) and tail suspension test (TST), two predictive methods for screening antidepressant effects. Further, spontaneous locomotor activity of the mice was evaluated by activity cage tests. The experimental protocol was approved by the Local Ethical Committee on Animal Experimentation of Anadolu University, Eskisehir, Turkey.

**Results:** Obtained data demonstrated that GA, administered at 60 mg/kg dose, decreased the immobility time of mice in both in TST and MFST. In MFST, GA, administered at the same dose induced a significant prolongation in both of the swimming and climbing time of mice with respect to the control values. These findings clearly indicate the antidepressant-like activity of GA administered at 60 mg/kg. A 30 mg/kg dose was ineffective in both tests. In the activity cage tests, GA did not induce any significant alteration in the total number of spontaneous locomotor activities. This finding indicates that the effect of GA reducing the immobility time in the TST was not accompanied by changes in locomotor activity, as assessed in the activity cage tests. The anti-immobility effect of GA in the TST was reversed with administrations of  $\alpha$ -methyl-para-tyrosine methyl ester (AMPT), an inhibitor of catecholamine synthesis (100 mg/kg, i.p.) and with p-chlorophenylalanine methyl ester (PCPA), an inhibitor of serotonin synthesis (100 mg/kg, i.p., administered for 4 consecutive days). These results suggest that the anti-depressant-like effect of GA is mediated through an increase in not only serotonin but also catecholamine levels in the synaptic cleft. However, other mechanisms, for example mechanisms involving the opioidergic, GABAergic, glutaminergic, and nitrergic systems, may also have contributed to the anti-depressant-like action observed in the present study. Therefore, other possible mechanisms should also be investigated with further studies.

**Conclusion:** To our knowledge, this is the first study to show findings that indicate the mechanisms underlying depressant-like effect of GA. This phenolic compound may become a new antidepressant drug candidate with a dual mechanism of action, if clinical studies validate its therapeutic effect in humans.

**Keywords:** gallic acid, antidepressant, mechanism of action

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**[Abstract:0782] Mood disorders****Marriage stories of individuals with bipolar disorder in relation with the illness**

Ikbal Inanli, Ibrahim Eren, Tahsin Etli, Mehmet Arslan, Mehmet Er, Ali Metehan Caliskan, Yusuf Emre Yilmaz

Department of Psychiatry, Konya Training and Research Hospital, Konya-Turkey  
 e-mail address: esra\_ucar88@hotmail.com

**Objective:** Bipolar disorder is a chronic psychiatric disorder with variable course and significant impact on patients' social, occupational, marital and general functioning. The mood symptoms of individuals with bipolar disorder are determined by multiple effects including biological and environmental factors. For example, the quality of social support influences both relapse rates and relapse polarity of the disease, and marital relationship is considered the most important source of social support. marital function among those who are married is often impaired and they have higher divorce rates. Several studies in the literature indicate that being married has a positive impact on functionality, and also reduce the number of episodes and increases adherence to treatment. Earlier studies tend to focus on how marriage affects the illness. The focus of our study is to investigate whether the bipolar disorder stimulates the number of marriages, how this illness impacts on decisions like getting married and divorced, and what the relationship between marriage and clinical features

of patients with bipolar disorder is.

**Methods:** The study enrolled 205 participants who were over 18 years old, diagnosed with bipolar disorder I and II, and in the euthymic state. They were assessed by using a data form that evaluates their socio-demographic, clinical and marriage status.

**Results:** According to our study results, out of 205 participants, 114 (55.6%) are women and 91 (44.4%) are men. 175 (85.4%) are diagnosed with bipolar disorder I and 30 (14.6%) have bipolar disorder II. Their ages range between 18 and 68 years. In terms of their marital status, 37 (18.0%) of them were never married, 122 (59.5%) were married and divorced, 40 (19.5%) were divorced, 4 (2.0%) of them were widowed and 2 (1.0%) were in a common-law marriage. This study also finds that 136 (66.3%) of all participants married once, 22 (10.8%) of them married twice, 8 (3.9%) married three times, 1 (0.5%) married four times and 1 (0.5%) of them married five times. According to our results, 41 marriage decisions out of the total 213 were made when the participant was in an active episode. 24 of 41 were in manic-mixed episode, 11 were in depressive episode and finally 6 were in hypomanic episodes; 28 divorce decisions out of a total of 88 were made when the patient was in an active episode, 23 of 28 were in manic-mixed episode, 4 were in a depressive episode and 1 was in a hypomanic episode. 27 out of 78 divorced female patients said that their partners divorced them because they were diagnosed with bipolar disorder and/or used medications.

**Conclusion:** Individuals with bipolar disorder experience different clinical episodes. Patients' decisions to get married, or remarried and divorced seem to be affected by the episode they are in. Additionally, the gender of patients influences these decisions. All these findings show that treatment of bipolar disorder should be comprehensive and holistic, which comprises all areas of their life.

**Keywords:** bipolar disorder, marriage, gender

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## NEUROIMAGING IN PSYCHIATRY

### [Abstract:0159] *Neuroimaging in psychiatry*

#### Symptomatic remission and hippocampus volume in schizophrenia

Ping Tsun Chang<sup>1</sup>, Jiing Feng Lirng<sup>2</sup>, Yuan Hwa Chou<sup>1</sup>

<sup>1</sup>Department of Psychiatry, Taipei Veterans General Hospital, Taipei-Taiwan

<sup>2</sup>Department of Radiology, Taipei Veterans General Hospital, Taipei-Taiwan

e-mail address: cookiepure@gmail.com

**Objective:** A recent meta-analysis of brain structure studies in schizophrenia has demonstrated that the most commonly reported deficit in brain regions was in left medial temporal lobe, which contains the hippocampus. The purpose of this study was to investigate specifically the hippocampus volume in schizophrenia with or without symptomatic remission.

**Methods:** Thirty-one schizophrenic patients and 31 age- and sex-matched healthy controls(HCs) were recruited. Seventeen of the patients were in symptomatic remission and 14 of them were in non-remission status. Each subject underwent magnetic resonance imaging for the measurement of the hippocampus volume using both automatic and manual methods. Symptomatic remission of schizophrenic patients was defined according to Andreasen's remission criteria.

**Results:** The hippocampus volume was significantly reduced in non-remitted patients and close to significance in remitted patients compared with HCs. ANCOVA analysis showed that the major contribution to the reduction of hippocampus volume was in the head and tail but not the body of the hippocampus. Although there was no significant difference in total hippocampus volume between remission and non-remission patients, linear regression analysis showed that the reduction of left hippocampus volume can be explained by groups as well as the reduction of head volume on both sides of hippocampus.

**Conclusion:** Our data suggest that the left hippocampus volume, particularly in the part of head, may reflect the treatment outcome.

**Keywords:** hippocampus, magnetic resonance image, schizophrenia

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### [Abstract:0513] *Neuroimaging in psychiatry*

#### Retrospective study of magnetic resonance imaging in a university hospital psychiatry clinic

Abdullah Akpinar, [Suleyman Keles](#), Ekrem Didin, Kadir Demirci, Arif Demirdas, Inci Meltem Atay, Duru Gundogar

Department of Psychiatry, Suleyman Demirel University, Faculty of Medicine, Isparta-Turkey

e-mail address: slymnkeles@gmail.com

**Objective:** The purpose of this study is to compare patients of a University Hospital inpatient clinic based on whether a cranial MRI (Magnetic Resonance Imaging) scan was ordered for them by their clinicians, and evaluate the patients' sociodemographic characteristics, diagnoses and reasons for ordering an MRI scan, and the pathological findings and related factors.

**Methods:** A total of 279 patients who were treated in the Suleyman Demirel University Psychiatry Department inpatient clinic in the two-year period of January 2013 to December 2014 were included in this study. The data of this study is gathered through retrospective analysis of the patients' records. Statistical analysis was conducted using SPSS 15.0 for Windows.

**Results:** The number of patients who were evaluated with MRI scan in the two-year period was 23.6% (n=66). 27% (n=18) of these MRI scans were ordered after a consultation with the neurology department of the hospital, and 73% (n=48) of them were ordered by psychiatric clinicians. MRI order reasons by clinicians were: suspicion of any kind of organic pathology related to primary diagnosis 77.5% (n=51), persistent headache 7.5% (n=5), suspicion of delirium 4.5% (n=3), suspicion of dementia 3% (n=2), suspicion of Parkinson's disease 3% (n=2), suspicion of a space-occupying lesion of the brain 1.5% (n=1) and others 3% (n=2). Of these patients who were evaluated with a MRI scan, in 75% (n=50) of the cases findings of the scans were in the normal range, in 25% (n=16) there was evidence for probable pathological findings. These pathological findings were atrophy consistent with age, possible ischemia-gliosis, left lateral ventricle expansion, arachnoid cyst, bifrontotemporal atrophy, and calcification.

**Conclusion:** Advanced MRI techniques have substantially increased our knowledge of the human brain's structure and function related to psychiatric disorders. Today neurological imaging is being used in psychiatric differential diagnosis processes (especially for general

medical conditions) in our country like elsewhere in the world. The more the MRI becomes widespread, the more it is used in diagnostic processes. However, there has been some criticism of imaging methods in psychiatric clinical practice, pointing out that no reliable anatomical or functional alterations have been confirmed in psychiatric neuroimaging. Results of this study show that in the majority of cases the findings were determined as being in the normal range. In this context, although invaluable in differential diagnosis, cost-effectivity of the use of neurological imaging might be an issue worth considering.

**Keywords:** neuroimaging, magnetic resonance imaging, psychiatry

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**[Abstract:0577] Neuroimaging in psychiatry**

**Alterations in resting state electrocortical network oscillations, schizophrenia-like symptoms and their relationships induced with the administration of the NMDA receptor antagonist ketamine in human volunteers**

Verner Knott<sup>1</sup>, Sara De La Salle<sup>2</sup>, Judy Mcintosh<sup>1</sup>, Hayley Bowers<sup>3</sup>, Dhraști Shah<sup>2</sup>, Joelle Choueir<sup>4</sup>, Ashley Beaudoin<sup>1</sup>, Alain Labelle<sup>5</sup>, Vadim Ilivitsky<sup>5</sup>

<sup>1</sup>University of Ottawa, Institute of Mental Health Research, Ottawa, Ontario-Canada

<sup>2</sup>Faculty of Psychology, University of Ottawa, Ottawa, Ontario-Canada

<sup>3</sup>Faculty of Psychology, University of Guelph, Guelph, Ontario-Canada

<sup>4</sup>Department of Cellular and Molecular Medicine, University of Ottawa, Ottawa, Ontario-Canada

<sup>5</sup>Royal Ottawa Hospital, Ottawa, Ontario-Canada

e-mail address: verner.knott@theroyal.ca

**Objective:** Growing evidence indicates that some of the core psychopathological phenomena observed in schizophrenia, including positive, negative and cognitive symptoms reflect abnormalities in glutamatergic neurotransmission. Combined with the observations that acute administration of sub-anesthetic doses of the N-methyl-D-aspartate receptor (NMDA-R) antagonist, ketamine, induces schizophrenia-like psychopathological effects in healthy volunteers, in vitro and in vivo electrophysiological studies suggest that NMDA-R antagonists interfere with the function of gamma-aminobutyric acid (GABA) interneurons and alter oscillatory activity and connectivity in several brain regions to produce psychotic, cognitive and emotional manifestations in schizophrenia. In this study, we use resting state electroencephalographic (EEG) oscillations to examine the hypothesis that the NMDA-R antagonist ketamine alters cortical activity and functional connectivity that are associated with changes in behavioral symptoms.

**Methods:** Intravenous ketamine was administered to a sample of 21 healthy volunteers in a randomized, placebo-controlled, double-blind crossover design. Clinical symptoms were assessed with the "Clinician Administered Dissociative States Scale" (CADSS) and the 3-min eyes-closed EEG recordings were subjected to: a) spectral analysis for computation of power in delta, theta, alpha, beta, and gamma frequency bands; b) eLORETA analysis for source localization of activity and connectivity in cortical regions of interest (ROIs).

**Results:** In addition to significant increases in symptom ratings, elevations in posterior delta and diffuse gamma power were evidenced with acute ketamine (vs. placebo) along with power reductions in alpha and beta, with power decreases in the latter two bands being associated with symptom increases. While delta, alpha and beta indexed activity of representative hubs of a cognitive central network (CCN), a default mode network (DMN) or an affective network (AN) were diminished with ketamine, gamma activity of both DMN and CCN were increased. Alpha DMN-CCN connectivity was also reduced with ketamine compared to placebo.

**Conclusion:** This study supports the hypothesis that NMDA-R-mediated alterations in resting state electrocortical network oscillations contribute to the production of psychotic symptoms associated with schizophrenia.

**Keywords:** electroencephalography (EEG), ketamine, schizophrenia

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## NEUROPSYCHIATRY AND BEHAVIORAL NEUROLOGY

### [Abstract:0380] *Neuropsychiatry and behavioral neurology*

#### Relationship between plasma homocysteine levels and cognitive functions in Parkinson's patients

Esra Yancar Demir<sup>1</sup>, Yasemin Kaya<sup>2</sup>, Feriha Ozer<sup>3</sup>, Sema Ayyildiz<sup>4</sup>

<sup>1</sup>Department of Psychiatry, Ordu University, Faculty of Medicine, Ordu-Turkey

<sup>2</sup>Department of Internal Medicine, Ordu University, Faculty of Medicine, Ordu-Turkey

<sup>3</sup>Department of Neurology, Medipol University, Faculty of Medicine, Istanbul-Turkey

<sup>4</sup>Department of Biochemistry, Ordu University, Faculty of Medicine, Ordu-Turkey

e-mail address: edyancar@yahoo.com

**Objective:** In this study we aimed to research the relationship between homocysteine levels and cognitive functions in IPD and to find out whether cognitive functions in IPD were associated to age, disease duration, age of disease onset, stage, the Unified Parkinson Disease Rating Scale (UPDRS) vitamin B12, folic acid and to assess the impact of entacapone on plasma levels of hcy, vitamin B12 and folat levels and MMSE scores in IPD.

**Methods:** Forty-two patients with IPD (26 male, 16 female) who attended our movement disorders outpatient clinic were included in this study. The diagnosis of IPD was confirmed by a movement disorders specialists in Neurology, according to UK Parkinson's Disease Society Brain Bank Criteria. First of all the hcy, folic acid and vitamin B12 levels and the results of screened cognitive evolution by mean MMSE of IPD patients were compared with those of the controls. Then patients were divided in two groups: 1) patients treated with only L-Dopa 2) patients treated with L-Dopa and entacapone combination. The hcy, folic acid and vitamin B12 levels of the patients with levodopa and levodopa+entacapone groups and the control group were compared.

**Results:** Sixteen patients with IPD receiving levodopa+entacapone treatment, 28 patients with IPD receiving only levodopa treatment and 26 healthy subjects were included in this study. MMSE scores were higher in the only L-dopa treated group than in the entocapone+L-dopa treated group and also the control group ( $27.23\pm 3.03$ ,  $25.81\pm 1.97$ ,  $26.23\pm 1.96$   $p=0.004$   $p=0.006$ , resp.). There was no significant difference between the entacapone+levodopa treated group and the control group in post-hoc analysis ( $p=0.29$ ). Homocysteine levels were found higher in the only L-dopa treated group than the other groups. ( $14.67\pm 4.83$ ,  $12.74\pm 3.28$ ,  $12.81\pm 3.26$   $p=0.34$ , resp.).

**Conclusion:** Our study shows that patients treated with L-DOPA have increased HCY concentrations, which is thought to be dose-dependent, and combination with entacapone may decrease homocysteine levels in PD patients. However, we found no correlation between cognitive impairment, hcy levels and stage of disease, age of onset of the disease, or duration of the disease.

**Keywords:** homocysteine, levodopa, cognitive impairment

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### [Abstract:0382] *Neuropsychiatry and behavioral neurology*

#### The relation of depression and anxiety to homocysteine and clinical features of Parkinson's disease

Esra Yancar Demir<sup>1</sup>, Yasemin Kaya<sup>2</sup>, Feriha Ozer<sup>3</sup>

<sup>1</sup>Department of Psychiatry, Ordu University, Faculty of Medicine, Ordu-Turkey

<sup>2</sup>Department of Internal Medicine, Ordu University, Faculty of Medicine, Ordu-Turkey

<sup>3</sup>Department of Neurology, Medipol University, Faculty of Medicine, Istanbul-Turkey

e-mail address: edyancar@yahoo.com

**Objective:** In this study, we aimed to find out whether depressive and anxiety symptoms were influenced by homocysteine (Hcy) and whether depressive and anxiety symptoms in IPD were associated with age, disease duration, age of disease onset, stage, the Unified Parkinson Disease Rating Scale (UPDRS), and to assess the impact of drugs used in parkinsonism on Hamilton depression (HAMD) and anxiety (HAMA) rating scales in IPD.

**Methods:** Forty patients with IPD (27 male, 13 female) and twenty-one healthy subjects (6 male, 15 female) who attended our movement disorders outpatient clinics were included in this study. The diagnosis of PD was confirmed by a movement disorders specialists in Neurology, according to UK Parkinson's Disease Society Brain Bank Criteria. The HAM-D and HAM-A rating scales were administered to

Parkinson patients and healthy subjects. Anti-parkinsonian treatments were recorded and the total daily dose of levodopa was calculated for each patient. Homocysteine levels were measured in Parkinson's patients and in healthy subjects.

**Results:** Rates of 92.5% (n=37) severe depression and 62.5% (n=25) mild anxiety were found in Parkinson's patients. There was no difference between Parkinson's patients and the control group in depression ( $p=0.78$ ). There was higher mild anxiety in Parkinson's patients than in the control group ( $p=0.05$ ). There was no correlation between Homocysteine level and HAM-A-HAM-D ( $r=0.009$   $p=0.95$   $r=0.24$   $p=0.12$ , respectively). However, there was a positive correlation between HAM-D and UPDRS total, UPDRS motor sections, UPDRS activities of daily living ( $r=0.45$   $p=0.006$   $r=0.38$   $p=0.002$   $r=0.47$   $p=0.004$ , respectively). Also there was a positive correlation between HAMA and UPDRS total, UPDRS activities of daily living, UPDRS cognitive, UPDRS complication of treatment ( $r=0.41$   $p=0.01$   $r=0.51$   $p=0.001$   $r=0.38$   $p=0.02$   $r=0.32$   $r=0.05$ , respectively). The subgroups of drugs (levodopa+ dopa decarboxylase enzyme inhibitor (DDEI), levodopa+DDEI+entacapone, and other drugs) were compared to each other; equivalent dose and significant difference were found in terms of mean levodopa dosage ( $p=0.007$ ). The Levodopa+DDEI subgroup had a higher mean levodopa dosage than levodopa+DDEI+entacapone and other drug subgroups. Although statistically insignificant, there were higher levels of hcy, HAM-A and HAM-D in the L-Dopa+DDEI subgroup.

**Conclusion:** In our study, comparing Parkinson patients and the normal control group, we found no significant relationship between depression scores but significantly higher scores of mild anxiety in Parkinson's patients compared to the control group. There were no correlations between Hcy levels and HAM-A and HAM-D scores. Although statistically insignificant, when equivalent dosage estimation was done, HAM-A and HAM-D scores were higher in the group having the highest mean levodopa dosage. Thus this subject needs to be evaluated in another study with a large number of patients.

**Keywords:** Parkinson's disease, homocysteine, depression and anxiety

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### [Abstract:0429] Neuropsychiatry and behavioral neurology

## Anxiety sensitivity, alexithymia, and anger among patients complaining of migraine-type headache

Selim Polat<sup>1</sup>, Cicek Hocaoglu<sup>1</sup>, Serkan Kirbas<sup>2</sup>, Ahmet Tufekci<sup>2</sup>

<sup>1</sup>Department of Psychiatry, Recep Tayyip Erdogan University, Faculty of Medicine, Rize-Turkey

<sup>2</sup>Department of Neurology, Recep Tayyip Erdogan University, Faculty of Medicine, Rize-Turkey

e-mail address: Cicekh@gmail.com

**Objective:** In this study, alexithymia, anxiety sensitivity, and state-trait anger scale test scores were compared between patients with migraine-type headache and individuals in a healthy control group.

**Methods:** One hundred patients with migraine-type headache who applied to Recep Tayyip Erdogan University Training and Research Hospital Neurology Clinic successively between the 1<sup>st</sup> of January 2013 and the 1<sup>st</sup> of June 2013 and fulfilled the criteria for participating in the study and 100 healthy voluntary individuals participated in the study. The Socio-Demographic Data Form, SCID-1, the Anxiety Sensitivity Index (ASI), the Toronto Alexithymia Scale (TAS), and the Spielberg State-Trait Anger Scale and Anger Expression Inventory were administered to all phenomena included in the study.

**Results:** Sixty-five percent of the patients with migraine were female, while 35(35%) of them were male. Of the control group, 57 (57%) were female, and 43(43%) were male. The average age in the patient group was  $37.87 \pm 7.8$  (25-56) years and in the control group  $36.91 \pm 6.2$  (25-55) years. Psychiatric comorbidity was prevalent in the patient group with migraine-type headache at 56%. Comparison based on average scores in ASI, TAS and the Spielberg State-Trait Anger Scale and Anger Expression Inventory revealed that the scores of the patient group were significantly higher than those of the control group. The patient group had higher scores in comparison to the control group in the Anger Expression Inventory. In addition, a significant difference was detected between two groups in terms of anger expression and anger management. It was seen there was a significant relationship between TAS and trait anger, anger introjection, and anger expression scores.

**Conclusion:** It was found that many psychological symptoms accompanied the clinical picture among patients with migraine-type headache. These psychological symptoms, which affect patients' current treatments and the course of disease, may frequently escape the notice of clinicians or be diagnosed wrongly. The present study reveals the necessity of consultation and liaison among clinics.

**Keywords:** migraine type headache, anxiety sensitivity, alexithymia

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## OBSESSIVE COMPULSIVE DISORDER

### [Abstract:0158] *Obsessive compulsive disorder*

## The relationship between treatment resistance, insight, and theory of mind in patients with obsessive-compulsive disorder

[Leman Inanc<sup>1</sup>](#), [Sema Inanir<sup>1</sup>](#), [Ece Yazla<sup>2</sup>](#), [Merih Altintas<sup>3</sup>](#), [Umit Basar Semiz<sup>4</sup>](#)

<sup>1</sup>Department of Psychiatry, Tokat Mental Health and Diseases Hospital, Tokat-Turkey

<sup>2</sup>Department of Psychiatry, Hitit University, Corum Training and Research Hospital, Corum-Turkey

<sup>3</sup>Department of Psychiatry, Erenkoy Mental Health Training and Research Hospital, Istanbul-Turkey

<sup>4</sup>Department of Psychiatry, Mugla Sitki Kocman University Training and Research Hospital, Mugla-Turkey

e-mail address: leman.inanc@gmail.com

**Objective:** The aim of the present study is to investigate whether insight and mentalizing abilities are related to the severity of OCD (obsessive compulsive disorder) in treatment resistant OCD. We also intend to examine the association between treatment resistance, insight, and mentalizing ability (theory of mind).

**Methods:** Participants included 71 individuals diagnosed with OCD; 30 (42.3%) of them met the criteria for treatment resistant OCD (resistant group), whereas the other 41 (57.7%) were labeled as responder group. The intensity of obsessions and compulsions was evaluated using the Yale-Brown obsessive-compulsive scale (Y-BOCS). All patients were assessed with "Reading the Mind in the Eyes Test", Brown Assessment of Beliefs Scale (BABS), Beck Cognitive Insight Scale (BCIS), Mood Disorder Questionnaire, Mini International Neuropsychiatric Interview, Beck Depression Inventory (BDI), and Beck Anxiety Inventory (BAI).

**Results:** Responder and resistant groups were similar in terms of age, gender, and education. The resistant group received higher mean scores of depression and anxiety than responders. Patients from the resistant group had significantly longer duration of the illness than the responders. The mentalizing score, as assessed by the "Reading the Mind in the Eyes Test" was significantly higher for responder patients. The Y-BOCS insight score, BCIS self-certainty dimension score, the number of positively answered questions on the Mood Disorder Questionnaire, and the score of BABS for the resistant group were statistically significantly higher than in the responder group. Pearson correlation analyses indicated that BCIS self-certainty dimension as well as BABS scores were significantly related to mentalizing total scores.

**Conclusion:** This study investigated the relationships between mentalizing ability and clinical and cognitive insight, and treatment resistance in OCD. The responder group of OCD patients has better mentalizing abilities. Resistant patients have poorer insight. BCIS self-certainty dimension and BABS scores were negatively correlated with mentalizing total scores. Results suggest that treatments targeting mentalization abilities may improve insight deficits associated with poor outcome in OCD.

**Keywords:** insight, mentalizing, treatment resistance

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### [Abstract:0338] *Obsessive compulsive disorder*

## Neurosteroid levels in pediatric obsessive-compulsive disorder patients

[Lale Gonenir Erbay<sup>1</sup>](#), [Ozlem Ozel Ozcan<sup>2</sup>](#), [Sukru Kartalci<sup>1</sup>](#), [Tugba Yuksel<sup>3</sup>](#), [Meryem Ozlem Kutuk<sup>4</sup>](#)

<sup>1</sup>Department of Psychiatry, Inonu University, Faculty of Medicine, Malatya-Turkey

<sup>2</sup>Department of Child and Adolescence Psychiatry, Inonu University, Faculty of Medicine, Malatya-Turkey

<sup>3</sup>Department of Child and Adolescence Psychiatry, Dicle University, Faculty of Medicine, Diyarbakir, Turkey

<sup>4</sup>Department of Child and Adolescence Psychiatry, State Hospital of Malatya, Malatya-Turkey

e-mail address: drozozlem@yahoo.com

**Objective:** Androgenic neurosteroids have been shown to have involvement in the etiopathogenesis of many psychiatric disorders. To be able to tell if changes seen in adults could also be shown in the pediatric age group is substantially important in elucidating the etiology. However, we did not come across any study that inspected neurosteroid levels in pediatric obsessive-compulsive disorder (OCD) patients. Consequently, in this study, we planned to study the levels of cortisol, testosterone and DHEA-S in pediatric OCD patients.



**Methods:** In this study, children between 7 and 16 years of age, 39 of whom were OCD patients and 37 healthy, have been included, with both groups having a similar distribution of age and sex. Total serum testosterone, cortisol and DHEA-S levels were measured using the ELISA method, and the relationship with the clinical data was investigated.

**Results:** No statistically significant difference could be established between the patients and the control group in testosterone, DHEA-S or cortisol levels. ( $p=0,175$ ,  $p=0,642$ ,  $p=0,842$  respectively).

**Conclusion:** This first study found out that levels of cortisol, testosterone and DHEA-S in the pediatric patients were no different than they were in the control group. However, considering that the levels of these neurosteroids have been shown to be different in the adult patients before, it is likely that the change in neurosteroid levels is a finding emerging in the course of the anxiety disorders.

**Keywords:** obsessive-compulsive disorder, testosterone, DHEA-S

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**[Abstract:0610] Obsessive compulsive disorder**

## Relationship between level of insight and cognitive functions in obsessive-compulsive disorder

Yilmaz Satan<sup>1</sup>, Mine Sahingoz<sup>2</sup>, Fatih Kayhan<sup>3</sup>, Emre Yilmaz<sup>4</sup>, Alper Adnan Dagistan<sup>5</sup>, Arzu Cicekci<sup>2</sup>

<sup>1</sup>Department of Psychiatry, Konya Numune Hospital, Konya-Turkey

<sup>2</sup>Department of Psychiatry, Necmettin Erbakan University, Meram Faculty of Medicine, Konya- Turkey

<sup>3</sup>Department of Psychiatry, Mevlana University, Faculty of Medicine, Konya-Turkey

<sup>4</sup>Department of Psychiatry, Osmaniye State Hospital, Osmaniye-Turkey

<sup>5</sup>Department of Psychiatry, Konya Training and Research Hospital, Konya-Turkey

e-mail address: yilmazsatan@gmail.com

**Objective:** The aim of this study is to evaluate the relationship between the level of insight and cognitive functions in obsessive-compulsive disorder.

**Methods:** A total of 50 patients who presented to Necmettin Erbakan University, Meram Medical School's Psychiatry outpatient clinic between June 2013 and March 2014, were diagnosed with OCD, and met the criteria of the study (27 patients with a high level of insight and 23 with a low level of insight) were compared with the control group composed of 25 healthy individuals recruited among the relatives of hospital staff with regard to neuropsychological test performances. In our study, the Stroop Test, Cancellation Test, WAIS-R Number Sequencing subtests, Line Orientation Test, and the Auditory Verbal Learning Test (AVLT) were used to evaluate cognitive functions like attention and memory, visual-spatial functions and executive functions like response inhibition and resistance to interference.

**Results:** There was no statistically significant difference between the patients diagnosed with OCD (those with a high level of insight and those with a low level) and the healthy control group regarding mean age, sex, married status, level of education, and professional status. It was found that the patients with OCD performed significantly worse than the control group in all the areas except for executive functions like response inhibition and interference affect and some of the attention areas. When all the results of the neuropsychological tests given to patients with a high level of insight, patients with a low level of insight, and to the healthy control group were evaluated, it was seen that while the patients with a high level of insight performed significantly worse in the attention, visual-spatial functions, and verbal working memory areas, those with a low level of insight performed significantly worse than the healthy control group in almost all areas. Further, when the neuropsychological test results of patients with a high level of insight and patients with a low level were compared, it was found that there was no statistically significant difference between them except for long-term memory and verbal learning areas.

**Conclusion:** The fact that OCD patients with a low level of insight present a specific neuropsychological profile is important since it will pave the way to the evaluation of biological and psychological characteristics of this group and to the development of therapy strategies. Moreover, the fact that OCD patients with a low level of insight have more severe impairment in neuropsychological performance suggests that this group presents different neurobiological characteristics than patients with no problem of insight.

**Keywords:** cognitive functions, insight, obsessive compulsive disorder

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**[Abstract:0650] Obsessive compulsive disorder****Comparison of decision-making, executive functions and impulsivity in patients with autogenous and reactive obsessive compulsive disorder**

Buket Belkiz Gungor<sup>1</sup>, Ersin Budak<sup>1</sup>, Ibrahim Tamur<sup>1</sup>, Burcu Uckun<sup>1</sup>, Nabi Zorlu<sup>2</sup>, Almila Akgul<sup>1</sup>, Hakan Demirci<sup>3</sup>, Rustem Askin<sup>1</sup>

<sup>1</sup>Department of Psychiatry, Sevket Yilmaz Training and Research Hospital, Bursa-Turkey

<sup>2</sup>Department of Psychiatry, Izmir Ataturk Training and Research Hospital, Izmir-Turkey

<sup>3</sup>Department of Family Medicine, Sevket Yilmaz Training and Research Hospital, Bursa-Turkey

e-mail address: buket.gungor@yahoo.com

**Objective:** Obsessions are categorized into two subtypes, autogenous obsessions and reactive obsessions, which are different in terms of identifiability of their evoking stimuli, subjective experiences, contents, and subsequent cognitive processes. Autogenous obsessions include sexual, aggressive, and immoral thoughts or impulses. Reactive obsessions include thoughts about contamination, mistake, accident, asymmetry. OCD of the autogenous subtype was associated with impaired inhibitory control on the visual go/no-go task. In the study comparing cognitive functions in autogenous obsessions and reactive obsessions, no differences were found. This study aimed to compare decision-making, executive functions and impulsivity of OCD patients with autogenous obsessions and reactive obsessions.

**Methods:** Fourteen autogenous OCD patients and 25 reactive OCD patients completed psychometric cognitive tests and psychiatric rating scales. Decision-making and impulsivity were evaluated respectively with Iowa Gambling Task and Barratt Impulsivity Scale. Executive functions included Stroop Task and Tower of London (ToL) test. OCD severity was assessed with Yale Brown Obsessive Compulsive Scale (YBOCS)

**Results:** The mean age of patients was 32.2. Mann Whitney U test indicated that there were no differences between autogenous and reactive OCD patients in decision-making, impulsivity and executive functions. Pearson correlation revealed positive relationship between YBOCS score and impulsivity ( $p=0.001$ ). There was a negative relationship between decision-making scores and maximum moves in LoT and Stroop scores ( $p<0.01$ ). In the regression analysis, 27.7% of the variance of YBOCS scores were explained with impulsivity.

**Conclusion:** The results suggest that OCD exhibits features of impulsivity. Due to the limited number of patients in the current study, any future research with a greater sample size will be helpful to explore decision-making and executive functions in OCD.

**Keywords:** obsessive compulsive disorder, decision making, impulsivity

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## OCCUPATIONAL PSYCHIATRY, PSYCHIATRIC REHABILITATION

[Abstract:0386] *Occupational psychiatry, psychiatric rehabilitation*

### Our experience regarding occupational activities of psychiatric patients

Kiyemet Kapcak Saricay<sup>1</sup>, Tugce Toker Ugurlu<sup>2</sup>, Nalan Kalkan Oguzhanoglu<sup>1</sup>

<sup>1</sup>Department of Psychiatry, Pamukkale University, Faculty of Medicine, Denizli- Turkey

<sup>2</sup>Denizli State Hospital, Denizli-Turkey

e-mail address: kiyemet\_ceren@hotmail.com

**Objective:** Schizophrenia and similar serious mental disorders adversely affect the mental abilities of patients. These patients need rehabilitation facilities to gain their previous functions and to become independent and socialized individuals. Occupational therapy, which is a part of the rehabilitation process for chronic mental disorders, has a major role for the self-expression, occupation and socializing of the patients with psychiatric disorders. In this study, we evaluated the effect of occupational therapy, conducted by the chief nurse of the Psychiatry Clinic of Pamukkale University, on the coping attitude, functionality, and treatment compliance of patients in outpatient settings.

**Methods:** Since the year 2012, occupational activities have been conducted twice weekly, 4 hours/week in total, with 8 patients with a spectrum of mental disorders (schizophrenia, schizoaffective disorder, obsessive compulsive disorder-[poor insight], recurrent major depression). Occupational activities were haircloth/wood painting, mosaic art, handworks like designing toys/flowers/jewelry, and social activities like charity fairs, picnic and concert attendance, visiting the sick inpatient children in our hospital, etc. After the occupational activities, the issues with the disorder and with the social environment of the patients were inquired about and they were asked to share their daily activities with each other. The control group was constituted by the 8 outpatients who were comparable for age, gender distribution and Axis I diagnosis. To measure the effects of occupational activities on coping attitudes, functionality and treatment compliance COPE Inventory, Brief Functionality Evaluation Scale and Morisky's Questions Self-report Measure of Adherence Scale and mean, standard deviation, Chi-Square and Mann Whitney U test for statistical analysis were utilized.

**Results:** Gender distribution between the occupation and control groups were 50.0% (n=4) male and 50.0% (n=4) female. Mean age was 45.12±16.67 (26-65) years in the occupation group and 44.62±1.36 (32-59) years in the control group. The two groups were comparable for the distribution of diagnoses (p=1.000) with 12.5% schizophrenia, 37.5% schizoaffective disorder, 25.0% obsessive-compulsive disorder (poor insight) and 25.0% recurrent major depression. The groups were comparable for the coping attitudes (p>0.05) on the subdivisions of the COPE scale, but significant difference was observed for the coping with the help of religion parameter (p=0.034). Coping with the help of religion was higher in the control group. Functionality was better in the occupation group (30.87±11.38 [11-50]) than the control group (44.25±13.54 [29-65]), (p=0.035). Treatment compliance was also better in the occupation group (p=0.008). High compliance was 100.0% in the occupation group and 25.0% in the control group. Moderate compliance was 37.5% and low compliance was 37.5% in the control group.

**Conclusion:** By the help of occupational activities, patients become more functional and therefore integrate better into social life, express themselves better and also comply better with the treatment and with members of the rehabilitation team. According to these results, occupational activities must be more emphasized in the rehabilitation of patients with chronic mental disease.

**Keywords:** occupational activities, psychiatry, rehabilitation

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## PERSONALITY DISORDERS AND ACCENTUATED PERSONALITY

### [Abstract:0385] *Personality disorders and accentuated personality*

#### Detection of the relationship between clinical features consisting of psychopathy levels and methylene tetrahydrofolate reductase (MTHFR) mutation among subjects with antisocial personality disorder

[Gulsah Meral<sup>1</sup>](#), [Cengiz Basoglu<sup>1</sup>](#), [Mehmet Alpay Ates<sup>1</sup>](#), [Recep Tutuncu<sup>1</sup>](#), [Ayhan Algul<sup>1</sup>](#), [Hakan Balibey<sup>1</sup>](#), [Serdar Ulus<sup>2</sup>](#), [Servet Ebrinc<sup>1</sup>](#), [Mesut Cetin<sup>1</sup>](#)

<sup>1</sup>Department of Psychiatry, GATA Haydarpasa Training Hospital, Istanbul-Turkey

<sup>2</sup>Kasimpasa Military Hospital, Istanbul-Turkey

e-mail address: gulsahmeral@hotmail.com

**Objective:** There is less information about the biological basis of Antisocial Personality Disorder (ASPD), although some of its initial symptoms appear in childhood or adolescence and it is a psychological disorder that causes problems in the individual's academic, economic, and social life. The aim of this study is to explore the presence of methylene tetrahydrofolate reductase (MTHFR) mutation and its correlation with psychometric tests among subjects with antisocial personality disorder.

**Methods:** One hundred and eight male subjects meeting DSM-IV-TR diagnostic criteria for ASPD who had been admitted to the outpatient unit of the Department of Psychiatry at GATA Haydarpasa Training Hospital were included in the study. The patients and control subjects were assessed by a semi-structured socio-demographic form, Structured Clinical Interview Diagnosis for DSM-IV (SCID-I), Structured Clinical Interview Diagnosis for DSM-III-R Personality Disorders (SCID-II), Hare Psychopathy Checklist-Revised, Barratt Impulsiveness Scale (BIS-11), Resilience Scale for adults and Temperament and Character Inventory. Real time PCR method is used in order to identify MTHFR mutation among subjects.

**Results:** In this study; all of the groups showed more "non-planning, lack of control impulsiveness" than other kinds. Also groups were not resilient in "perception of future", "structured style" and "social competence" subgroups, groups with heterozygous and homozygous mutations were and group without mutation wasn't resilient in "perception of self" subgroup, group with heterozygous mutation+ without mutation were and group with homozygous mutation wasn't resilient in "family cohesion" and "social resources" subgroups. For all TCI temperament trait subgroups, there was no significant correlation with the results. But we found high novelty seeking, harm avoidance, cooperativeness, self-directedness points and low reward dependence, self-transcendence points. As a result of psychometric tests, there was no significant correlation identified between the MTHFR enzyme mutation and test results. On the other hand, it has been found that the impulsiveness among subjects with ASPD was of non-planning type.

**Conclusion:** In our study, no significant correlation was identified between the MTHFR enzyme mutation and ASPD. We thought that limitation of our study sample and not measuring MTHFR enzyme activity may play a role in producing these results. Additional work is needed to examine in large groups and with MTHFR enzyme activity measure.

**Keywords:** antisocial personality disorder, MTHFR enzyme mutation, psychopathy

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### [Abstract:0408] *Personality disorders and accentuated personality*

#### Adult attention deficit hyperactivity disorder comorbidity in antisocial personality disorder

[Okan Er<sup>1</sup>](#), [Burcin Colak<sup>2</sup>](#), [Murat Semiz<sup>3</sup>](#)

<sup>1</sup>Department of Psychiatry, Etimesgut Military Hospital, Ankara-Turkey

<sup>2</sup>Department of Psychiatry, Ankara University, Faculty of Medicine, Ankara-Turkey

<sup>3</sup>Department of Psychiatry, Gulhane School of Medicine, Ankara-Turkey

e-mail address: drokaner@hotmail.com

**Objectives:** Attention deficit hyperactivity disorder (ADHD) is a lifelong neurodevelopmental disorder in which there are significant problems of attention, hyperactivity and impulsive acts. There are some pervasive behavioral, cognitive, and emotional traits in antisocial personality disorder (ASD) such as low frustration threshold, impulsivity, and disregard for others. The aim of this study was to research the prevalence of ADHD in ASD patients.

**Method:** Forty patients from an outpatient psychiatry clinic, diagnosed with ASD according to structured clinical interview for DSM-III-R

personality disorders (SCID-II), were included in the study. Wender Utah Rating Scale (WURS) was applied for the assessment of childhood ADHD. Patients who got high scores in WURS were assessed with Adult ADD/ADHD DSM-IV Based Diagnostic Screening and Rating Scale (Adult ADHD Scale).

**Results:** DEHB comorbidity in the ASD group was 40% (n=16). Mean inattention and hyperactivity-impulsivity scores were  $21.4 \pm 9.6$  and  $19.4 \pm 8.7$ , respectively, in the comorbid group.

**Discussion:** Our study showed the high prevalence of ADHD in ASD patients. Clinicians should be aware of ADHD comorbidity in the assessment and treatment of ASD patients.

**Keywords:** ADHD, antisocial personality disorder, comorbidity

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### [Abstract:0588] *Personality disorders and accentuated personality*

## Previous fracture history can be a predictive factor for psychiatric disorders

Sarper Ercan<sup>1</sup>, Omer Ersen<sup>1</sup>, Abdullah Bolu<sup>2</sup>, Suleyman Akarsu<sup>3</sup>

<sup>1</sup>Erzurum Marshal Fevzi Cakmak Military Hospital, Erzurum-Turkey

<sup>2</sup>Eskisehir Military Hospital, Eskisehir-Turkey

<sup>3</sup>Aircrew's Health Research and Training Center, Eskisehir-Turkey

e-mail address: [abdullah\\_bolu@yahoo.com](mailto:abdullah_bolu@yahoo.com)

**Objective:** Previous fracture history of soldiers prior to compulsory military service is an important issue for both orthopedics and psychiatry departments of military hospitals. The aim of this study is to evaluate the psychiatric status of soldiers who had fractures before military service.

**Methods:** The data of patients admitted to the orthopedic outpatient clinic with complaints related to previous fractures for the term between January 2013 and November 2013 were examined retrospectively. Patients who had also been admitted to the psychiatry polyclinic were included in the study and subjected to further investigation.

**Results:** One hundred and sixty-nine patients with previous fractures had been referred to the orthopedic department of our hospital over 10 months. 31 (18%) patients had a history of hand fracture and 26 (15%) patients had suffered elbow fracture. 44 (26%) of 169 patients were also referred to the psychiatry department. The fractures of 16 (36%) of the 44 patients had been treated surgically. Average psychiatric appeal was 2.6 times. 31 (70%) of these patients had an upper extremity fracture and most common fracture areas were hand (27%) and elbow (27%). The most common psychiatric diagnosis of these patients was adjustment disorder (72%). 3 patients had been diagnosed with dissociative disorder and 4 patients had been diagnosed with anxiety disorder. 3 patients had no psychiatric diagnosis. 13 (29%) patients had a substance use history, 9 (20%) patients had a self-mutilation history and 6 (13%) patients had a criminal record.

**Conclusion:** Hand and elbow fractures had been identified more prevalent in psychiatric disorder group than compared to the population of all fractures. A major cause of bone fractures, particularly that involving the forearm and hand is aggressive behavior. Another one is acting impulsively to endanger the physical integrity. These two behaviors with impulsive and aggressive features are the main symptoms of antisocial personality disorder. Likewise, psychoactive substance abuse and self-mutilation are further behavioral abnormalities belonging to the same personality disorder. Patients with antisocial personality disorder often have difficulty to adapt. These adaptation problems with the surroundings show itself in many areas of life. Compulsory military service has a special importance in our society, but on the other hand it is a stressful process. Some soldiers may experience adaptation problems. A high proportion of patients experiencing adjustment disorder are the ones who have an antisocial personality disorder. So, soldiers admitted to the orthopedic outpatient clinic with complaints related to previous fractures may also experience adjustment problems due to personality pathologies. Examination of the personality patterns of the study participants might have provided significant data about this issue in this study. Soldiers with history of previous upper extremity fractures, especially hand and elbow, may have adjustment disorder during compulsory military service, so careful evaluation is required in terms of adjustment disorder in this group of soldiers.

**Keywords:** aggression, fracture, personality

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**[Abstract:0674] Personality disorders and accentuated personality****Temperament and character traits in multiple sclerosis patients: a twink to lesion localization**

Esra Yazici, Dilcan Kotan, Mustafa Ozten, Atila Erol

Sakarya University, Faculty of Medicine, Sakarya-Turkey

e-mail address: dresrayazici@yahoo.com

**Objective:** Multiple sclerosis (MS) is a chronic demyelinating disease of the CNS that can lead to serious disability and impairs the quality of life. In addition to progressive neurological disability, neuropsychiatric symptoms and personality changes have also been reported in MS patients. Personality is a composite of individual behavioral, mental, and emotional response patterns. There are a number of models that assess personality traits and explain underlying biological interactions. There are few studies about personality traits and MS conducted with Temperament and Character Inventory (TCI) and there is no study specifying any relationship between the localization of MS and personality. This study seeks answers for two questions: first, "is there a relationship between MS and temperament and character?" and second, "if there is a relationship then are the localization or type of MS important for temperament and character?"

**Methods:** Sixty-eight patients with definite MS according to the McDonald criteria were recruited from our MS outpatient clinic. Sixty three control subjects were chosen at random from hospital staff, students at the medical school, and the general population by face-to-face interview. All participants underwent a detailed medical examination, including medical history, full neurological examinations, and a psychiatric interview. All participants were evaluated by Structured Clinical Interview for DSM-IV- Clinical version (SCID-I-CV). Then all of the participants completed (TCI). It includes four temperament traits: novelty seeking (NS), harm avoidance (HA), reward dependence (RD), persistence (P), and three character traits: self-directedness (SD), cooperativeness (C) and self-transcendence (ST)

**Results:** The sample of this study was composed of 68 MS patients and 63 healthy controls. The average age of the MS patients were  $36.84 \pm 9.94$  while the average age of the control group was  $35.08 \pm 8.38$  and there was no significant difference between groups. The MS group's RD and SD scores were significantly higher than in the control group. TCI scores of involvement of an area and non-involvement of the same area were compared with the student t test. Accordingly patients' RD scores with spinal involvement MS (mean RD scores  $15.67 \pm 2.47$ ) was significantly higher than others (mean RD scores  $14.52 \pm 3.06$ ) ( $p < 0.05$ ). Also patients' RD and SD scores with periventricular MS were significantly higher than others (mean RD and SD scores for periventricular MS  $15.57 \pm 2.80$ ;  $22.60 \pm 7.45$  and  $14.17 \pm 2.93$ ;  $19.54 \pm 5.33$  respectively) ( $p < 0.05$ ). In covariance analysis controlling the results for comorbid psychiatric diagnosis, only periventricular MS was still related with higher RD scores ( $F = 6.565$ ,  $p < 0.05$ ). All other significance disappeared.

**Conclusion:** This study presents temperament and character traits of patients results. Results of this study attract attention to RD as a temperament trait and periventricular involvement of MS as a localization related to temperament and character. Psychiatric comorbidity is an important covariant in such investigations.

**Keywords:** temperament, character, multiple sclerosis

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**[Abstract:0721] Personality disorders and accentuated personality****Temperament and character traits in patients with irritable colon**

Cengiz Karacaer, Esra Yazici, Alime Burcin Saykan, Atila Erol

Sakarya University, Faculty of Medicine, Sakarya-Turkey

e-mail address: dresrayazici@yahoo.com

**Objective:** Irritable Bowel Syndrome (IBS) is a chronic, continuous or intermittent illness characterized by frequent and unexplained symptoms that include abdominal pain, bloating, and bowel disturbance. It is considered to be the most common gastrointestinal (GI) dysfunction with an estimated prevalence of 8-22% in general population. Though a number of biological triggers have been proposed for onset of IBS, it has also been suggested that psychological factors, particularly those associated with the process of somatization play an important role and may even act as markers of IBS onset. Recent studies have shown that subjects with IBS have higher levels of depression, anxiety and neuroticism as compared to those without IBS. There is a growing literature about the relationship between irritable colon and psychiatric symptoms and also the relationship between temperament and character traits and organic diseases.

However, to the best of our knowledge the relationship between IBS and temperament and character traits has not been investigated yet. Thus, the aim of this study was to research if there is a relationship between temperament and character traits and IBS.

**Methods:** This study is conducted with 57 patients with irritable colon and 57 healthy controls. Participants who accepted voluntarily to join the study and who are between the ages of 18-65 with no psychiatric diagnosis are included into the study. Approval of local ethics committee has been obtained and all patients gave written consent. A sociodemographical data form is completed by all participants.

Irritable colon is evaluated according to the ROME III criteria. All of the participants in the irritable colon group and the healthy control group were evaluated by a psychiatric interview for the psychiatric diagnosis and the ones with any active psychiatric disorder were excluded. Structured Clinical Interview for DSM-IV (clinical version) is used for the psychiatric evaluation. Then Temperament and Character Inventory is completed by all participants of the study.

**Results:** This study is conducted with 57 patients with irritable colon and 57 healthy controls.

In comparison between the groups, it was determined that in the group of irritable colon, scores of persistence, which is one of the temperament characteristics, was lower than in the control group; and self-directedness and cooperativeness, which are two of the character traits, were lower than in the control group ( $p < 0.05$ ). In correlation analysis, positive correlation between cooperativeness and irritable bowel disease duration was determined ( $p = 0.280$ ,  $p < 0.05$ ). According to regression analysis, having 'irritable colon' was a predictor factor for 'persistence' trait ( $\beta = -0.253$ ,  $t = -2.230$ ,  $p < 0.05$ ), yet it was not a predictor factor for other traits. However, level of education was a predictor factor for 'self-directedness' ( $\beta = 0.329$ ,  $t = 3.008$ ,  $p < 0.005$ ).

**Conclusion:** This study showed that there is a relationship between personality and irritable colon. Persistence, self-directedness and cooperativeness are personality traits found to have a relationship with IBS. Further studies with larger sample sizes are needed.

**Keywords:** irritable colon, personality, temperament and character

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### [Abstract:0732] *Personality disorders and accentuated personality*

## Comparing diagnostic tools in personality disorders

Emel Aktas<sup>1</sup>, Olga Seher Guriz<sup>2</sup>, Guler Alpaslan<sup>3</sup>, Esra Cavdar<sup>2</sup>, Sibel Orsel<sup>2</sup>

<sup>1</sup>Private Practice, Antalya-Turkey

<sup>2</sup>Department of Psychiatry, Ankara Diskapi Yildirim Beyazit Training and Research Hospital, Ankara-Turkey

<sup>3</sup>Department of Psychiatry, Baskent University Healthcare Group, Ankara-Turkey

e-mail address: drguler78@hotmail.com

**Objective:** Personality disorders involve patterns of behavior, mood, social interaction and impulsiveness that cause distress to the person experiencing them as well as to other people in their lives. DSM-IV-TR Personality Disorder categorical classification includes ten different personality disorders defined as cluster A, paranoid, schizoid, schizotypal, cluster B, histrionic, narcissistic, borderline, antisocial, cluster C avoidant, dependent, and obsessive-compulsive. In clinical settings, diagnosing personality disorders is essential for planning treatment, especially in treatment non-adherence and resistant groups. There are no measurable advantages for clinician-based interview techniques as being more reliable and valid than self-report questionnaires, and both of the techniques are used. We aimed to compare SCID-2 (Structured Clinical Interview for DSM-IV Personality Disorder) with self-report questionnaires PBQ (Personality Belief Questionnaire) and MMPI-PD (Minnesota Multiphasic Personality Inventory) to determine consistency of these diagnostic tools in this study.

**Methods:** The participating thirty-nine patients were hospitalized at Ankara Diskapi Yildirim Beyazit Training and Research Hospital and Etlik Expert Hospital of Psychiatry Clinic; they were older than 18 years, literate, and had been diagnosed with personality disorder based on SCID-2 interview. Psychotic disorders were excluded. Socio-demographic data form, MMPI-PD, and PBQ were used. For data evaluation, non-parametric tests were used for descriptive statistics and Spearman correlation analysis for the relationship between tools.

**Results:** Thirty-nine patients met the inclusion criteria; of these, 19 (48.7%) were female, 20 (51.3%) were male. Mean age was  $38.1 \pm 11.08$ . SCID-II diagnoses were clustered A, B, C for statistical evaluation. We found cluster B (61.5%) and borderline personality disorder were the most frequent (13 patients- 33.3%). The results of correlation analysis were statistically significant between self-report questionnaires PBQ, MMPI-PD and SCID-II for the correlation between PBQ-histrionic subscale and cluster B ( $r = 0.34$ ) and correlation between PBQ-antisocial and cluster C ( $r = -0.34$ ). Comparing SCID-II personality disorder clusters with MMPI-PD subscales, moderate significant correlation has been obtained between cluster A and MMPI-PD paranoia subscale ( $r = 0.50$ ). Statistically significant correlation was not determined

between other subscales.

**Conclusion:** In this study we aimed to compare diagnostic compatibility between self-report questionnaires PBQ, MMPI-PD and semi-structured interview SCID-II. In an epidemiological study in Turkey, the prevalence of cluster A was found to be 7.7%, cluster B 4.1%, and cluster C 6.5%; in an outpatient setting it is reported that using PBQ (Personality Diagnostic Questionnaire) found high frequency in cluster C and low in cluster B. Hayward at al. showed that the most common personality disorder was cluster B personality disorder in patients diagnosed with axis 1 disorders. Similarly we found cluster B higher; this might reflect the fact that the participants were inpatients and co-morbid with axis 1 disorders. In conclusion, correlation between self-report questionnaires and interview techniques has been found low and reached different results in diagnosing personality disorders. More comprehensive studies are required to develop diagnostic tools for personality disorders.

**Keywords:** MMPI, personality, questionnaires

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## PHARMACOTHERAPIES

### [Abstract:0160] *Pharmacotherapies*

#### Effect of venlafaxine on sexual function in major depression: a six-month open label study

[Alper Evrensel](#)<sup>1</sup>, [Adnan Cansever](#)<sup>2</sup>, [Ufuk Hamurcu](#)<sup>3</sup>

<sup>1</sup>Department of Electroneurophysiology, Uskudar University, Istanbul-Turkey

<sup>2</sup>Clinic, Ankara-Turkey

<sup>3</sup>Department of Psychiatry, Ankara Training and Research Hospital, Ankara-Turkey

e-mail address: [alperevrensel@gmail.com](mailto:alperevrensel@gmail.com)

**Objective:** Antidepressant drugs may lead to sexual dysfunction. It was aimed to research the effect of a 6-month intake of venlafaxine on sexual function during the treatment of patients with major depressive disorder.

**Methods:** Forty-eight major depressive disorder cases who had been admitted to the psychiatry clinic consecutively were included in the study. The clinical scales were applied in the first month, second month and sixth month of the treatment before the venlafaxine treatment. The study was completed with 36 cases.

**Results:** Sexual dysfunction was identified in 58.3% (21/36) of the patients taking venlafaxine at the beginning. A significant difference could not be found between the scores of Arizona Sexual Experiences Scale comparing the beginning and the first month, and the beginning and sixth month ( $p < 0.231$  and  $p < 0.622$ , respectively). The decline differences observed in the scores of Arizona Sexual Experiences Scale between the beginning and second month and second month and sixth month were found statistically significant ( $p < 0.006$  and  $p < 0.003$ , respectively). All patients went into remission at the end of the 6-month treatment.

**Discussion:** The high rates of sexual dysfunction before the venlafaxine treatment were significantly decreased in the second month of the treatment. The depression remitted after a 6-month treatment but the rate of sexual dysfunction increased to pre-treatment levels. The results of this research show that sexual dysfunction lasts during the venlafaxine treatment and gets very close to the initial rate at the end of six months.

**Keywords:** venlafaxine, serotonin-noradrenaline reuptake inhibitor, sexual dysfunction

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### [Abstract:0161] *Pharmacotherapies*

#### Impacts of a six-month venlafaxine intake on serum prolactin levels in patients with major depressive disorder

[Alper Evrensel](#)<sup>1</sup>, [Adnan Cansever](#)<sup>2</sup>, [Ufuk Hamurcu](#)<sup>3</sup>, [Murat Oncu](#)<sup>4</sup>

<sup>1</sup>Department of Electroneurophysiology, Uskudar University, Istanbul-Turkey

<sup>2</sup>Clinic, Ankara-Turkey

<sup>3</sup>Department of Psychiatry, Ankara Training and Research Hospital, Ankara-Turkey

<sup>4</sup>Department of Psychiatry, GATA Haydarpaşa Training Hospital, Istanbul-Turkey

e-mail address: [alperevrensel@gmail.com](mailto:alperevrensel@gmail.com)

**Objective:** Antidepressants may increase serum prolactin levels. The purpose of the study is to explore the effects of six months of venlafaxine intake on the serum prolactin level of patients with major depressive disorders.

**Methods:** Seventy-eight patients with major depressive disorders, who had applied to the psychiatry clinics consecutively, participated in the study. Structured Clinical Interview for DSM-IV Axis I Disorders and the Hamilton Depression Rating Scale were administered to all participants. Levels of serum prolactin, FT3, FT4 and TSH of each participant were measured before the venlafaxine treatment. After one month and sixth month of the venlafaxine treatment, levels were remeasured. The study was completed with sixty-five cases.

**Results:** There is no significant difference between serum prolactin levels measured at the beginning and in the first month of the treatment. Serum prolactin level measured at the beginning of the treatment had increased significantly by the sixth month of the treatment. Serum prolactin levels measured in the first month of the treatment had increased significantly by the sixth month of the treatment. Galactorrhea did not occur in any cases.

**Conclusion:** Even though galactorrhea did not occur in any case despite the long-time use of venlafaxine, the serum prolactin levels increased within the normal limits. Therefore, clinicians should monitor the serum prolactin levels of the patients during the venlafaxine treatment without waiting for galactorrhea symptoms.

**Keywords:** hyperprolactinemia, serotonin noradrenalin reuptake inhibitor, venlafaxine

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**[Abstract:0280] Pharmacotherapies**

## Should immediate release methylphenidate be the treatment of choice for initiation of ADHD treatment?

[Veli Yidirim](#), [Yunus Killi](#), [Serkan Gunes](#), [Recep Bostan](#), [Fevziye Toros](#)

Department of Child and Adolescent Psychiatry, Mersin University, Mersin-Turkey  
e-mail address: velikaramanli@gmail.com

**Objective:** To assess the Conners' Teacher Rating Scale-Revised Short in evaluating improvement in symptomatology with immediate-release methylphenidate (MPH-IR), methylphenidate extended release (OROS MPH) or atomoxetine (ATX) in attention deficit hyperactivity disorder (ADHD) of children patients.

**Method:** In a clinical sample, over a period of 12 months, all drug-naive patients with ADHD (n=128; boys, n=92; girls, n=36) were evaluated retrospectively. Patients between 7 and 17 years of age were consecutively selected and diagnosed for ADHD according to the Diagnostic and Statistical Manual of Mental Disorders, 4<sup>th</sup> edition (DSM-IV), by a Child and Adolescent Psychiatrist. The treatment of MPH-IR, OROS MPH, ATX was started at 0.5mg/kg/day for 1 week. The dose was increased to 1mg/kg/day at 1 week after treatment initiation till 8 weeks. Efficacy measures were evaluated by Conners' Teacher Rating Scale. We assessed 107 children that completed the first and second teacher scale. Eleven patients used a combination of OROS MPH and MPH-IR. All cases were evaluated between January 2013 and January 2014. The Teachers' Scale was completed before the treatment began and two months after the initiation of treatment. Conners' Teacher Rating Scale (CTRS): Turkish translations of the 28-item Conners' Teacher Rating Scale (CTRS) was calculated with good internal consistency as indicated by Cronbach's alpha coefficients. Factor analytical data from the normal sample studies tested the construct validity of parent and teacher Turkish Conners' rating scales (CRS) despite non-differentiation of the conduct factor from the hyperactivity factor on the teacher scale. The clinical criteria scores proposed the necessity of adapting the item content of all the subscales, except the hyperactivity subscale. The adapted and original subscales of the CRS Turkish forms revealed such psychometric properties that they could be employed in assessing attention deficit and disruptive behavior disorders in Turkish children.

**Results:** The mean age of 117 patients included in this study was 10.78±2.7 years. Stable daily doses were 1 mg/kg/day for ATX, OROS-MPH and IR-MPH. All efficacy parameters were significantly improved with the use of the above-mentioned three drugs in respect to baseline.

**Conclusion:** In the treatment of ADHD, once-daily OROS-MPH produces significant improvements in hyperactivity. But IR-MPH improves hyperactivity, attention deficit and behavioral disorder. ATX treatment is found less effective than other two treatment groups. MPH-IR might be the initial treatment of choice in ADHD treatment during the first 8 weeks of treatment

**Keywords:** ADHD, atomoxetine, methylphenidate

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**[Abstract:0332] Pharmacotherapies****The effects of Montelukast on depression and anxiety behaviors in rats**[Ersoz Gonca](#)

Bulent Ecevit University, Faculty of Arts and Sciences, Zonguldak-Turkey

e-mail address: ersozgonca67@hotmail.com

**Objective:** Montelukast is a leukotriene receptor antagonist used for the treatment of chronic asthma and to relieve symptoms of seasonal allergies. The Food and Drug Administration Committee issued a warning with regard to the correlation between suicide, psychiatric symptoms and the use of Montelukast. This report is entirely based on information from case reports on asthma patients. However, there may be a link between asthma and depression, which is the most important risk factor for suicide. Therefore, the increased suicide rate reported in asthma patients may not be dependent on Montelukast use. Likewise, a retrospective evaluation of clinical data found no elevated risk of suicide in patients treated with Montelukast. Therefore, there is a controversy about the proposed association. The aim of present study is to research the effect of Montelukast treatment on depressive and anxiety behaviors in healthy rats.

**Methods:** Twenty-two female Wistar albino rats (150–200 g) were used in this research. The rats were divided into two groups: a Montelukast-treated group (n=10) and a saline-treated control group (n=10). Montelukast was intraperitoneally injected at a dose of 10mg/100µl/kg for 10 days. A forced swimming test and open field test was performed on day 10 to evaluate the depressive and anxiety behaviors of rats. In the forced swimming test, rats were placed individually in a cylindrical tank (30cm width × 50cm height containing 25cm of water at 24±1oC) for 6min. In the open field test, rats were placed in a box (100×100×25cm) containing 16 equal squares for 5min. In the forced swimming test, total mobility time was determined as the sum of the time spent in climbing and swimming behaviors. The rats were judged to be immobile when they remained in the water without struggling. In the open field analyses, the time spent in the center squares, the time spent grooming, as well as the number of rearing, defecation and line crossing, were determined. The drug-treated group was compared to the control group. A Student's two-tailed t-test and Mann-Whitney U test were used for parametric and non-parametric data, respectively. Data were expressed as means with±standard error of the mean.

**Results:** Montelukast treatment induced depressive behavioral responses, with a significant increase in immobility time (Montelukast: 187±9 s versus 125±4 s for the control, p<0.001) and decrease in swimming time (Montelukast: 34±7 s versus 90±7 s for the control, p<0.001) and total mobility time (Montelukast: 52±9 s versus 110±13 s for the control, p<0.001). Montelukast treatment did not change any data regarding anxiety behaviors.

**Conclusion:** These results reveal that Montelukast treatment induced depressive behaviors in healthy rats, but it did not cause anxiety behaviors. These findings support the warning with regard to the correlation between suicide, psychiatric symptoms and the use of Montelukast. However, further studies are needed to test the effects of Montelukast on depression and anxiety in rats with experimentally-induced asthma, and to elucidate the mechanism of the effects of Montelukast.

**Keywords:** anxiety, depression, Montelukast

**Bulletin of Clinical Psychopharmacology 2015;25(Suppl. 1):S161**

**[Abstract:0352] Pharmacotherapies****Descriptive evaluation of haloperidol decanoate treatment of schizophrenia inpatients: A retrospective review**[Memduha Aydin, Bilge Cetin Ilhan, Abdulkaki Akyildiz, Ibrahim Eren](#)

Department of Psychiatry, Konya Training and Research Hospital, Konya-Turkey

e-mail address: memduhaaydin@yahoo.com

**Objective:** Treatment adherence problems are common in the acute phase, in the long-term maintenance and in the prevention of relapse of schizophrenia. Using depot injectable antipsychotics are some of the options for pharmacological interventions that may be used to enhance medication adherence in patients.

Haloperidol decanoate (HD) is one of the depot injections that have several clinical and practical advantages over oral haloperidol: better compliance and more predictable absorption, more controlled plasma concentrations, fewer extrapyramidal side effects. We aimed to evaluate patients followed in our clinic who have been treated with HD antipsychotic medication.

**Method:** Patients who had been consecutively admitted to the psychiatry inpatient clinic of Konya Training and Research Hospital between June 2013 and December 2014 with the diagnosis of schizophrenia under the treatment of haloperidol decanoate were reviewed retrospectively. A sociodemographic and clinical data form arranged by researchers completed from the files of inpatient schizophrenics including "Haloperidol decanoate treatment questionnaire", Positive and Negative Syndrome Scale (PANSS), the Clinical Global Impression Severity Scale (CGI-S), Barnes Akathisia Scale (BAS) and Simpson Angus Scale (SAS), and serum prolactin levels. Forty-six (18 female, 28 male) patients included in the study were evaluated for severity of the disorder, clinical features on admission, haloperidol decanoate loading-dose schedules, previous depot injections, antipsychotic side effects, concomitant use of anti-parkinsonian drugs, use of polypharmacy, hospitalization rates and their treatment compliance.

**Results:** Forty-six (18 female, 28 male) patients were included in the study, 12 patients were excluded, 6 patients (2 female, 4 male), 5 patients (3 female, 2 male), 1 patient (male), respectively, because of extrapyramidal side-effects, dropouts and switching to other depot injection. Thirty-four patients (13 female, 21 male) who had been treated for at least three months with HD (50 mg-300 mg monthly) demonstrated improvement in psychotic symptoms. It is observed that HD loading-dose schedules varied among patients both in dosage, from 100 mg/month to 600 mg/month, and in dosing patterns, either 2 times in every 7 days or 4 times in every 5 days or full amount at once. Results indicated that usage of different dosage schedules didnot affect the side-effect profile of patients. All patients were prescribed anti-parkinsonian therapy during the first month of loading-dose. Despite anti-parkinsonian therapy, extrapyramidal side effects were reported in 12 of 46 patients (6 excluded) in the first month of loading-dose. There were no significant hematological or biochemical changes. No local or systemic side effects were reported during the trial. Patients were well stabilized on their optimal dose schedule and tolerated HD treatment well. The number of hospitalizations and, when hospitalized again, the number of days in clinics was reported decreased after HD treatment.

**Conclusion:** Treatment guidelines for schizophrenia recommend that clinicians strongly consider depot medication for patients who may be non-compliant to antipsychotic treatment regimens. HD offers a useful alternative in the treatment of psychoses to orally administered haloperidol or to other depot antipsychotic drugs. Well-conducted and reported randomized trials are needed to assess the effects of HD versus oral anti-psychotics and other depot antipsychotic preparations for people with schizophrenia in terms of clinical, social and economic outcomes.

**Keywords:** depot antipsychotics, haloperidol decanoate, schizophrenia

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### [Abstract:0555] *Pharmacotherapies*

## Effects of risperidone and paliperidone on serum prolactin levels: a comparative study

[Tugba Mutu](#), [Esra Yazici](#), [Atila Erol](#), [Mustafa Ozten](#)

Department of Psychiatry, Sakarya University Training and Research Hospital, Sakarya-Turkey  
e-mail address: tugbamutu@gmail.com

**Objective:** Hyperprolactinemia is an important adverse effect of antipsychotic treatment. Hyperprolactinemia can lead to gynecomastia, galactorrhea, sexual dysfunction, infertility, oligomenorrhea, amenorrhea and osteoporosis. All of the typical antipsychotics are known to cause elevation in serum prolactin level. Atypical antipsychotics have a lower tendency for increasing serum prolactin levels when compared with typical antipsychotics, but effects of all atypical antipsychotics on serum prolactin levels are not similar. Paliperidone is a newly commercialized antipsychotic whose formulation includes the principal active metabolite risperidone and 9-hydroxyrisperidone, and it is claimed that it is an advantageous agent compared to risperidone, especially considering the side effects. We aim to research effects of atypical antipsychotics risperidone and paliperidone on serum prolactin levels and compare the results.

**Methods:** In this study, the records of inpatients treated with risperidone and paliperidone were screened retrospectively for the period from April 2014 to January 2015. The patients whose records had enough sociodemographic data and who had been screened for prolactin levels before treatment and in the second week of the treatment were included in the study. Patients who had already been in treatment were excluded; thus only new onset of risperidone or paliperidone is evaluated.

**Results:** A total of 95 patients were included in the study with diagnoses of schizophrenia, bipolar disorder, and other psychotic disorders. 83 patients have been treated with risperidone (risperidone group) and 12 patients with paliperidone (paliperidone group). The mean age of patients was 38.2 years and 48 were male, 47 were female. 53 patients were diagnosed with schizophrenia, 32 patients were with bipolar disorder, and 10 patients carried some other psychotic disorder. There were no significant differences between the risperidone group and the paliperidone group in the terms of age, gender and profile of psychiatric diagnosis.

The mean initial serum prolactin level in patients was 47.5 ng/dl and the mean level measured in the second week of the treatment was

115.07 ng/dl. There was a significant increase of serum prolactin level after two weeks ( $p < 0.01$ ). The mean initial serum prolactin level in the risperidone group was 49.56 ng/dl and the mean level measured in the second week of the treatment of the risperidone group was 115.05 ng/dl. The mean initial serum prolactin level in the paliperidone group was 34.91 ng/dl and the mean level measured in the second week of the treatment of the paliperidone group was 115.08 ng/dl. There was no significant difference between the risperidone and the paliperidone group in serum prolactin levels ( $p > 0.05$ ).

**Conclusion:** This study suggests that paliperidone has no advantage over risperidone in serum prolactin levels. The results of the study also remind that patients who are under treatment with antipsychotics should be monitored regularly in terms of hyperprolactinemia and its associated symptoms. Further studies with larger sample size and over a longer time period are needed to highlight the effects of antipsychotics on serum prolactin levels.

**Keywords:** prolactin, risperidone, paliperidone

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### [Abstract:0630] *Pharmacotherapies*

## Lorazepam-induced delirium

Pinar Cetinay Aydin, [Semiha Seluk](#), Goksen Yuksel, Ayca Ongel, Suna Uysal, Nazan Aydin

Department of Psychiatry, Bakirkoy Training and Research Hospital for Psychiatry, Neurology and Neurosurgery, Istanbul-Turkey  
e-mail address: semihask@hotmail.com

**Objective:** Benzodiazepines are sedative hypnotic medications which are widely used in the treatment of anxiety disorders and sleeping disorders. These medications have become more widely used in our daily practice due to the significance of adding clonazepam, lorazepam, and alprazolam to antipsychotics, mood stabilizers as adjuvant medications in the treatment of acute manic episodes apart from anxiety and sleeping disorders. The side effects, which might occur during their use in addition to their misuse and addiction potentials, can arrive at a level to create problems during the application of the treatment. Anterograde amnesia might sometimes be a desired side effect in the acute use of benzodiazepines. The increase in anger and hostility, behavioral side effects such as aggressive and offensive behaviors are also known to occur with the use of benzodiazepines. There are cases where musical hallucinations, sleepwalking, and delirium have been reported among the less frequently seen side effects. In a study done with intensive care patients, it was concluded that lorazepam-based delirium was seen. There are cases reported with delirium as a result of intravenous lorazepam. As we also experienced delirium presentations accompanied by altered consciousness, confused look, disorientation, live visual hallucinations in some of our patients with lorazepam in their treatment at our clinic, we retrospectively examined our patients with lorazepam in the clinical treatment.

**Methods:** This study included 404 female patients who received inpatient treatment at Bakirkoy Mental Health Training and Researching Hospital 15<sup>th</sup> Psychiatry Clinic between August 2013 and July 2014. The file details of the patients were scanned retrospectively.

**Results:** Lorazepam was identified in the treatment of 287 patients among 404 female patients who had received inpatient treatment at the clinic. Delirium clinic was observed in 9 of 287 patients (3.1%) who used lorazepam. Five of these patients were diagnosed with bipolar disorder, two of them with schizoaffective disorder, one of them with delusional disorder and one of them with substance addiction. The age average of the patients who developed delirium was not significantly different from the age average of the other patients. There were no general medical condition diagnoses or laboratory findings to explain the delirium that accompanied their psychiatric diagnose. 278 patients who did not develop delirium had a daily average lorazepam dosage of  $3.3 \pm 2.1$  mg/g. The patients who developed delirium had a daily average lorazepam dosage of  $6.1 \pm 1.7$  mg/g. This was lower than the maximum recommended daily dosage of lorazepam which is 10mg/g. As there were no reasons to explain the clinical presentation other than lorazepam, lorazepam treatments were discontinued in our patients. It was determined that the delirium presentation regressed and improved within hours during fluid and supportive treatment.

**Conclusion:** Benzodiazepines have high affinity to GABA receptors in the central nervous system. This GABA mimetic effect might change the levels of several neurotransmitters, which are supposed to be deliriogenic. Cases reported were usually patients in the postoperative period in intensive care units or cases that developed delirium following the application of intravenous lorazepam. There were no delirium cases reported under lorazepam treatment in psychiatry clinics in the literature. Due to the wide use of lorazepam together with antipsychotic mood stabilizers in the treatment of mood disorders, we wanted to draw attention to the necessity to consider delirium among the side effects of lorazepam.

**Keywords:** lorazepam, delirium, side effect

**Bulletin of Clinical Psychopharmacology 2015;25(Suppl. 1):S163**

**[Abstract:0725] Pharmacotherapies****Skin eruptions related with selective serotonin reuptake inhibitors**Ayse Suleyman<sup>1</sup>, Funda Suleyman<sup>2</sup>, Ilyas Kaya<sup>2</sup>, Behiye Alyanak<sup>2</sup><sup>1</sup>Department of Pediatric Allergy and Immunology, Erzurum State Hospital, Erzurum-Turkey<sup>2</sup>Department of Child and Adolescent Psychiatry, Istanbul University, Istanbul Faculty of Medicine, Istanbul-Turkey

e-mail address: draysesuleyman@yahoo.com

**Objective:** The aim of the present study was to provide clinical data regarding clinical and sociodemographic features of individuals who were admitted to our clinic for skin rash during treatment with selective serotonin reuptake inhibitors (SSRI).

**Methods:** Eleven patients between the ages of 6 and 15 years who presented to our clinic due to skin rash during treatment with SSRI between the years of 2012-2013 were included into the present study. All of the patients were evaluated with skin prick test and patch tests for the suspected SSRI and all of them went through psychiatric examination.

**Results:** There were 4 boys and 7 girls; the mean age was 10.5 years. Five of the patients were using sertraline and six were using fluoxetine. The mean time between the initiation of SSRI treatment and skin rash was  $28.7 \pm 17.3$ . Six of them were using SSRI for anxiety disorder, two of them were diagnosed as having major depressive disorder, two of them were using SSRI for obsessive compulsive disorder and one of them was diagnosed as having posttraumatic stress disorder. While skin prick tests were negative in all patients, patch tests were positive in four patient, which indicates delayed hypersensitivity.

**Conclusion:** SSRIs are considered as first line treatment for depression and anxiety disorders in children and adolescents and thought to be safe drugs compared to other psychotropic drugs. The most frequently reported adverse effects of SSRIs were nausea, vomiting, diarrhea, agitation, headache, insomnia, somnolence, anxiety, and sexual dysfunction while only few cases of cutaneous adverse reactions have been reported, the most common types being maculopapular rash, vasculitis, Stevens-Johnson syndrome, and photodermatitis. All of our patients had maculopapular rash.

Even though most of these reactions were reported to occur a few days after the drug had been introduced, the mean time between the initiation of drug and rash was long in our sample due to four delayed hypersensitive reactions. In conclusion, the increasing use of SSRIs may probably result in an increase in cases of cutaneous reactions due to these drugs. Therefore clinicians should be alert to this type of reactions.

**Keywords:** selective serotonin reuptake inhibitors, skin rash, adverse drug reactions

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**[Abstract:0837] Pharmacotherapies****Antipsychotic use among children and adolescents in an outpatient clinic; a retrospective chart review**

Ozge Metin, Zeynep Yesildag Tunc, Bahriye Kilicaslan, Buse Pinar Aksoy, Ulker Samxalova, Ezgi Eynalli, Oguz Sevince, Aysegul Yolga Tahiroglu, Gonca Gul Celik, Ayse Avci

Department of Child and Adolescent Psychiatry, Cukurova University, Faculty of Medicine, Adana-Turkey

e-mail address: drozgem@gmail.com

**Objective:** In recent years the use of antipsychotics (APs) for neurodevelopmental, behavioral and psychiatric disorders in children and adolescents has significantly increased while the age of prescription has decreased. To the best of our knowledge, there is very limited data about the use of APs in the clinical practice in Turkish children and adolescents with different psychiatric disorders. The aim of this retrospective study was to analyze the relationship between the use of different APs and clinical factors in a child and adolescent outpatient clinic in Turkey.

**Methods:** Medical records of 4623 patients referred to the Children and Adolescent Psychiatry outpatient clinic between May 2013 and September 2014 were reviewed retrospectively.

**Results:** The analyses included 304 (6.6%) patients who were prescribed APs medications. The sample was predominantly male (61.5%) and mean age was  $11.4 \pm 4.3$  years. The most commonly prescribed APs were risperidone, aripiprazole, haloperidol and olanzapine, respectively. Diagnoses upon admission to clinic in descending order of frequency are disruptive behavior disorders (DBD), mental

retardation (MR), bipolar disorder (BPD), posttraumatic stress disorder, autism spectrum disorder (ASD) and psychotic disorder. Risperidone was the most preferred drug in all diagnosis groups. Approximately 30% of the patients have comorbid medical conditions. The rate of Aripiprazole was more in females than males ( $p=0.003$ ), and risperidone was more used in male than in female patients ( $p=0.001$ ). It was detected that risperidone was more selected with the diagnosis of mental MR/ASD and DBD, olanzapine was more chosen for the diagnosis of psychotic disorder/BPD, aripiprazole was preferred for the diagnosis of anxiety disorders and psychotic/BPD than other diagnoses (in all comparison;  $p<0.05$ ).

**Conclusion:** Previous studies in outpatients are mainly prescription studies, which stated that APs are mainly used off-label. Specifically, risperidone was the most prescribed SGA in almost all studies on the prevalence of prescriptions in children and adolescents as well as in an adolescent inpatient setting with the exception of one study performed in Italy. Consistent with the literature, the most common diagnostic category for which APs were used in patients was DBD. Effectiveness of risperidone on autism-related aggression/irritability and conduct disorder has been shown. Consistent with the literature, we have detected that risperidone was preferred with the diagnosis of MR/ASD and DPD. Effectiveness of aripiprazole for psychosis and BPD has been shown. Consistent with the literature, we have detected that aripiprazole was more prescribed with the diagnosis of psychosis and BPD. Furthermore in our study aripiprazole was preferred for the diagnosis of anxiety disorders. However, there is insufficient evidence in child and adolescent anxiety disorders. The upward trends in the use of APs have not been matched by advances in the understanding of AP safety profiles in this group of patients. It is therefore crucial to produce up-to-date syntheses of the evidence and clinical guidelines for the use and monitoring of these treatments in pediatric populations.

**Keywords:** adolescent, antipsychotics, child

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## POST-TRAUMATIC STRESS DISORDER

[Abstract:0136] *Post-traumatic stress disorder*

### Serum total oxidant and antioxidant status in earthquake survivors with post-traumatic stress disorder

Pinar Guzel Ozdemir<sup>1</sup>, Ibrahim Kaplan<sup>2</sup>, Cem Uysal<sup>3</sup>, Mahmut Bulut<sup>4</sup>, Abdullah Atli<sup>4</sup>, Yasin Bez<sup>5</sup>, M. Cemal Kaya<sup>4</sup>, Osman Ozdemir<sup>1</sup>

<sup>1</sup>Department of Psychiatry, Yuzuncu Yil University, Faculty of Medicine, Van-Turkey

<sup>2</sup>Department of Biochemistry, Dicle University, Diyarbakir-Turkey

<sup>3</sup>Department of Forensic Medicine, Dicle University, Diyarbakir-Turkey

<sup>4</sup>Department of Psychiatry, Dicle University, Faculty of Medicine, Diyarbakir-Turkey

<sup>5</sup>Department of Psychiatry, Marmara University, Faculty of Medicine, Istanbul-Turkey

e-mail address: pguzelozdemir@yahoo.com

**Objective:** Earthquakes are among the most destructive life-threatening natural disasters and an important cause of death. Despite the fact that earthquakes are frequently experienced and devastating natural disasters, less attention has been paid to risk factors and psychological effects. PTSD is common and chronic mental disorder is likely to develop in anyone who has been exposed to violent trauma. Oxidative stress has been shown to play an important role in the pathogenesis of post-traumatic stress disorder. Although there are some studies on oxidative stress and post-traumatic stress disorder, no reports are available on the serum total oxidant and antioxidant status in earthquake survivors with PTSD. Therefore, this study aims to investigate the serum total oxidant and antioxidant status in earthquake survivors with chronic PTSD.

**Methods:** This study was consecutively conducted in the Department of Psychiatry at Yuzuncu Yil University (Van, Turkey) between June 2012 and February 2013. In this study, 45 patients with chronic PTSD (15 males, 30 females) and 40 non-PTSD subjects (14 males, 26 females) were enrolled. The control group consisted of 40 healthy earthquake survivors. Patients with PTSD had not received any treatment prior to the study. The oxidative status was determined using a total antioxidant status and total oxidant status measurement and a calculation of the oxidative stress index. Patients were assessed for PTSD by a psychiatrist with the Clinician-Administered PTSD Scale (CAPS) and the Clinical Global Impression (CGI) scale.

**Results:** There were no statistically significant differences between the two groups regarding age, gender, or body mass index. There were no statistically significant differences in the total antioxidant status, total oxidant status, or oxidative stress index when comparing subjects with and without PTSD (all,  $p>0.05$ ). We found no correlations between Clinician-Administered PTSD Scale scores and oxidant and anti-oxidant stress markers (all,  $p>0.05$ ).

**Conclusion:** Our results suggest that the total oxidant and antioxidant status may not affect earthquake survivors with PTSD. This is the first study to evaluate the oxidative status in earthquake survivors with PTSD. Further studies are necessary to confirm these findings.

**Keywords:** oxidative stress index, earthquake survivors, post-traumatic stress disorder

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**[Abstract:0163] Post-traumatic stress disorder****Is prolidase a neuroprotective molecule in post-traumatic stress disorder?**

Suleyman Demir<sup>1</sup>, Mahmut Bulut<sup>1</sup>, Abdullah Atli<sup>1</sup>, Ibrahim Kaplan<sup>2</sup>, Pinar Guzel Ozdemir<sup>3</sup>, Yasin Bez<sup>4</sup>, Mehmet Cemal Kaya<sup>1</sup>, Cem Uysal<sup>5</sup>, Aytekin Sir<sup>1</sup>

<sup>1</sup>Department of Psychiatry, Dicle University, Diyarbakir-Turkey

<sup>2</sup>Department of Biochemistry, Dicle University, Diyarbakir-Turkey

<sup>3</sup>Department of Psychiatry, Yuzuncu Yil University, Faculty of Medicine, Van-Turkey

<sup>4</sup>Department of Psychiatry, Marmara University, Istanbul-Turkey

<sup>5</sup>Department of Forensic Medicine, Dicle University, Diyarbakir-Turkey

e-mail address: drsuleymanemir@hotmail.com

**Objective:** Post-traumatic stress disorder (PTSD) is a psychiatric disorder which develops after exposure to a traumatic event. In recent years, researches on roles of biologic effects in PTSD's etiology have increased. Prolidase is a manganese-dependent cytosolic exopeptidase that cleaves imidodipeptides containing Cterminal proline or hydroxyproline, and its activity has been documented in plasma and in various organs, such as the heart and the brain. In humans, the deficiency of the enzyme activity causes a rare autosomal recessive inherited disorder with a highly variable clinical phenotype such as chronic recurrent infections, mental retardation, splenomegaly, and skin lesion. The status of prolidase, which has significant biologic effects in PTSD's etiology, has been assessed. In this study, we aimed to investigate the relationship between PTSD and serum prolidase activity.

**Methods:** Among the survivors of the Van earthquake on 23 October 2011, 25 patients who had been diagnosed with PTSD according to DSM-IV criteria and 26 cases who were traumatized but not diagnosed with PTSD as well as 25 healthy controls who never experienced an earthquake were enrolled in the study. Serum prolidase activity of all participants was measured and compared across groups. All traumatized cases were assessed using the PTSD Check List Civilian Version (PCL-C).

**Results:** The mean prolidase activity of PTSD patients was significantly lower than that of traumatized cases without PTSD diagnosis, which in turn is significantly lower than the prolidase activity of the cases who never experienced an earthquake ( $p < 0.01$ ).

**Conclusion:** Studies have also noted that glutamate and nitric oxide (NO) play a causal role in anxiety-related behaviors. Because of the prominent role of NO in neuronal toxicity, cellular memory processes, and as a neuromodulator, nitergic pathways may have an important role in stress-related hippocampal degenerative pathology and cognitive defects seen in patients with PTSD. It has been shown that elevated prolin levels activated the NMDA receptor. It has been considered that prolidase has a role of regulation of nitric oxide synthesis. We observed in this research that while prolidase levels decreased, the substance tended to reduce NO and the neurotoxic effects of glutamate. Therefore, we suggest that Prolidase is a neuroprotective molecule.

**Keywords:** neuroprotective, post-traumatic stress disorder, prolidase activity

**Bulletin of Clinical Psychopharmacology 2015;25(Suppl. 1):S167**

**[Abstract:0185] Post-traumatic stress disorder****Prevalence of PTSD and depression among Iraqi Yazidi refugees**

Atilla Tekin<sup>1</sup>, Hekim Karadag<sup>1</sup>, Metin Suleymanoglu<sup>1</sup>, Merve Tekin<sup>1</sup>, Gokay Alpak<sup>2</sup>

<sup>1</sup>Department of Psychiatry, Cizre State Hospital, Sirnak-Turkey

<sup>2</sup>Department of Psychiatry, Gaziantep University, Gaziantep-Turkey

e-mail address: gokayalpak@gmail.com

**Objective:** A number of studies have shown that post-traumatic stress disorder and depression are common psychiatric disorders among refugees. Estimates for the prevalence of PTSD in refugees have ranged from 3% to 86% and those for depression from 3% to 80%. The aim of this study was to investigate the prevalence of PTSD and depression among Iraqi Yazidi refugees.

**Methods:** This cross-sectional study was conducted in the Cizre/Sirnak refugee camp. Sample size calculation yielded 238. Two experienced and native Kurdish-speaking psychologists evaluated the participants. DSM-IV-TR diagnostic criteria for diagnosis of PTSD and depression were considered. The Stressful Life Events Screening Questionnaire was performed to each participants.

**Results:** The frequency of PTSD was 42.9% and the frequency of depression was 39.5%. The rate of PTSD and depression in women

refugees was statistically higher than among male refugees. Traumatic events associated with PTSD were "had been in a region that is affected by war," "witnessed the death of a close friend or a family member" and "witnessed the abduction or being taken hostage of a close friend or a family member".

**Conclusion:** Our findings indicate that PTSD and depression are frequently observed in war-affected regions, especially among women refugees. Loss and violence are important factors for the development of PTSD in refugees.

**Keywords:** depression, post-traumatic stress disorder, refugee

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**[Abstract:0238] Post-traumatic stress disorder**

## Post-traumatic stress disorder and major depressive disorder among caregivers of patients with stroke

Halil Ibrahim Tas<sup>1</sup>, Ugur Cakir<sup>2</sup>, Ilgin Sade<sup>3</sup>, Irem Ulubil<sup>3</sup>

<sup>1</sup>Department of Psychiatry, Izmit Seka State Hospital, Izmit-Turkey

<sup>2</sup>Department of Psychiatry, Abant Izzet Baysal University, Faculty of Medicine, Bolu-Turkey

<sup>3</sup>Department of Psychiatry, Kocaeli University, Kocaeli-Turkey

e-mail address: tashalilibrahim@gmail.com

**Objective:** In this study, it has been aimed to investigate prevalence and risk factors of post-traumatic stress disorder (PTSD) and major depressive disorder (MDD) among caregivers of stroke patients.

**Methods:** Eighty-six caregivers participated in the study. All caregivers of stroke patients have joined a physical rehabilitation program in Kocaeli University Hospital and a private rehabilitation center between April and June 2013. Sociodemographic form and general health questionnaire 12 (GHQ-12) have been used to assess the cases. PTSD and MDD modules of Structured Clinical Interview for DSM-IV (SCID-1) have been used for the diagnose of PTSD and MDD.

**Results:** 37.2% of participants have met the diagnostic criteria for DSM-IV MDD and 20.9% for PTSD. Cluster analysis revealed that caregivers can be divided into two subgroups which are classified by the presence of MDD, PTSD and mean scores of GHQ-12. There was a statistically significant difference between the two caregiver clusters in terms of patients' gender, age, and the duration of the illness, employment, sharing the same house with the patient, the duration of caregiving, history of a psychiatric disorder, history of a psychiatric disorder in first degree relatives, financial burden of medical expenses.

**Conclusion:** Results of this study have shown that there is a substantially high prevalence of PTSD and MDD among caregivers of stroke patients. The high psychopathology rates among caregivers of stroke patients reveal the importance of therapeutic intervention attempts for relatives of these patients.

**Keywords:** depression, trauma, stroke

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## PRIMARY CARE AND MENTAL HEALTH

### [Abstract:0478] *Primary care and mental health*

#### Evaluation anxiety, depression, and health-related quality of life in male and female patients with newly diagnosed type 2 diabetes

Kagan Ucok<sup>1</sup>, Akif Acay<sup>2</sup>, Kerem Senol Coskun<sup>3</sup>, Ahmet Hamdi Alpaslan<sup>4</sup>, [Necip Fazil Coban](#)<sup>1</sup>, Gokhan Akkan<sup>1</sup>, Idris Kaya<sup>1</sup>, Cemil Celikagi<sup>1</sup>, Esin Damra Coban<sup>1</sup>, Omer Ozbulut<sup>3</sup>

<sup>1</sup>Department of Physiology, Afyon Kocatepe University, Faculty of Medicine, Afyonkarahisar-Turkey

<sup>2</sup>Department of Internal Medicine, Afyon Kocatepe University, Faculty of Medicine, Afyonkarahisar-Turkey

<sup>3</sup>Department of Psychiatry, Afyon Kocatepe University, Faculty of Medicine, Afyonkarahisar-Turkey

<sup>4</sup>Department of Child and Adolescent Psychiatry, Afyon Kocatepe University, Faculty of Medicine, Afyonkarahisar-Turkey

e-mail address: dr.nfc177@gmail.com

**Objective:** Depression and anxiety are common symptoms in patients with type 2 diabetes, and certain sociological factors, such as age and gender, are related to these psychological disorders. The disease-related components such as anxiety, depression, and health-related quality of life may change in each progression period of type 2 diabetes in both genders. Thus, the aim of this study was to compare anxiety, depression, and health-related quality of life in newly diagnosed male and female type 2 diabetic patients with those of healthy controls.

**Methods:** The patients were considered to have type 2 diabetes mellitus if the fasting plasma glucose level was  $\geq 126$  mg/dl (7 mmol/L), and/or the 2<sup>nd</sup> hour plasma glucose level was  $\geq 200$  mg/dL (11.1 mmol/L) following an oral glucose tolerance test, and/or random plasma glucose level was  $\geq 200$  mg/dL (11.1 mmol/L), and/or the value of the HbA1c was  $\geq 6.5\%$ , in addition to hyperglycemia symptoms. Eighty patients (40 male, 40 female) with type 2 diabetes and 80 (40 male, 40 female) healthy controls were included in this study. All participants completed the Beck Anxiety Inventory (BAI), Beck Depression Inventory (BDI), and short-form health survey (SF-36) questionnaires. The data were analyzed using the Statistical Package for the Social Sciences (SPSS) version 20.0 software (SPSS Inc., Chicago, IL, USA). The significance level was determined as  $p \leq 0.05$ .

**Results:** It was determined that the SF-36 total scores were lower in male and female type 2 diabetic patients, when compared to the controls. The BAI and BDI scores were higher in the female patients, compared to the controls. Nevertheless, the BAI and BDI scores were not significantly different between the male patients and the controls. The fasting plasma glucose showed negative correlations with the SF-36 total score in the diabetic patients in both genders. Also, the fasting plasma glucose showed positive correlations with the BDI score in the female patients.

**Conclusion:** This study revealed that the health-related quality of life was impaired in male and female type 2 diabetic patients, when compared to the controls. However, the anxiety and depression symptomatology were exacerbated only in female diabetic patients, compared to the controls. We suggest that the consideration of anxiety, and depression, on the basis of gender, in newly diagnosed type 2 diabetic patients might be helpful for the development of more successful illness management strategies, including early intervention.

**Keywords:** anxiety, depression, type 2 diabetes

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### [Abstract:0617] *Primary care and mental health*

#### Psychological resilience in patients with acne vulgaris

[Leman Inanc](#)<sup>1</sup>, Sema Inanir<sup>1</sup>, Ece Yazla<sup>2</sup>

<sup>1</sup>Tokat Mental Health and Diseases Hospital, Tokat-Turkey

<sup>2</sup>Hitit University, Corum Training and Research Hospital, Corum-Turkey

e-mail address: leman.inanc@gmail.com

**Objective:** The purpose of this study is to compare psychological resilience between acne patients and healthy subjects and to see the association between anxiety, depression and resilience.

**Methods:** The study was carried out with two groups. A sample of 241 participants, the first group consisting of 146 subjects with acne

vulgaris and a control group of 95 healthy individuals, was recruited. Sociodemographic form, the Resilience Scale for Adults, Beck Anxiety Inventory and Beck Depression Inventory were administered to each volunteer.

**Results:** When we compared acne individuals and the healthy control group, we observed a significant statistical difference between the two groups on the 'perception of self' and 'perception of future' subscale scores of the Resilience Scale for Adults. ( $p < 0.05$ ). Acne patients and healthy group did not differ significantly on 'structured style', 'social competence', 'family cohesion' and 'social resources' subscales ( $p > 0.05$ ). No difference in depression scores and anxiety scores was observed between the acne and control groups ( $p > 0.05$ ). Statistically significant negative correlations between overall subscores on the Resilience Scale for Adults and scores on Beck Anxiety Inventory and Beck Depression Inventory were observed.

**Conclusion:** Our results highlight the relationship between the resilience scores and the scores of depression and anxiety in the acne group. The acne group was significantly worse on 'perception of self' and 'perception of future' subscale scores. This study provides further evidence that it may be efficient for clinicians to give a further boost to resilience factors in relation to depressive and anxiety symptoms among acne patients. The results support the importance of patients' resilience in a successful management of mental burdens of acne.

**Keywords:** psychological resilience, acne vulgaris, anxiety

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[Abstract:0618] *Primary care and mental health*

## Dysfunctional metacognitive beliefs in patients with acne vulgaris

[Sema Inanir<sup>1</sup>](#), [Leman Inanc<sup>1</sup>](#), [Havva Seckin<sup>2</sup>](#), [Zennure Takci<sup>2</sup>](#), [Meral Oran<sup>2</sup>](#)

<sup>1</sup>Tokat Mental Health and Diseases Hospital, Tokat-Turkey

<sup>2</sup>Gaziosmanpasa University, Tokat-Turkey

e-mail address: [sinanir@gmail.com](mailto:sinanir@gmail.com)

**Objective:** The aim of this study is to compare dysfunctional metacognitive beliefs between acne patients and healthy subjects. There is no comprehensive knowledge about the metacognitive beliefs in acne patients. Research aims to highlight the difference of metacognitions in patients with acne vulgaris.

**Methods:** The study was carried out with two groups. A sample of 241 participants, the first group consisting of 146 subjects with acne vulgaris and a control group of 95 healthy individuals, was recruited. Sociodemographic form, Metacognitions Questionnaire 30 (MCQ-30), Beck Anxiety Inventory and Beck Depression Inventory were administered to each volunteer.

**Results:** When we compared acne individuals and the healthy control group, we observed significant statistical difference between two groups on the mean total and subscale scores of MCQ-30 ( $p < 0.05$ ). Results show that there is a significant difference between acne patients and normal groups in uncontrollability and risk, positive beliefs about worry, cognitive trust, cognitive self-awareness, and need to thought controlling subscales ( $p < 0.05$ ). No difference in depression scores and anxiety scores was observed between the acne and control groups ( $p > 0.05$ ). Negative beliefs about riskiness and uncontrollability subscale scores were strongly correlated with anxiety and depression scores.

**Conclusion:** The results showed a positive relationship between depression and anxiety scores and uncontrollable negative thoughts. This indicates the importance of teaching and learning positive strategies of metacognitive beliefs and avoiding negative metacognition beliefs. The difference in metacognitive beliefs between acne group and the control group support the thought of using Metacognitive Therapy as a treatment option.

**Keywords:** metacognition, acne vulgaris, anxiety

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## PSYCHIATRIC CLASSIFICATION

[Abstract:0283] *Psychiatric classification*

### DSM-IV versus DSM-5 diagnosis of bipolar disorder in a Turkish sample

Eylem Ozten<sup>1</sup>, Sermin Kesebir<sup>1</sup>, Gokben Hizli Sayar<sup>1</sup>, Gul Eryilmaz<sup>1</sup>, Isil Gogcegoz Gul<sup>1</sup>, Oguz Kayihan Karamustafalioglu<sup>2</sup>

<sup>1</sup>Department of Psychiatry, NP Istanbul Neuropsychiatry Hospital, Istanbul-Turkey

<sup>2</sup>Department of Psychology, Uskudar University, Faculty of Humanities and Social Sciences, Istanbul-Turkey

e-mail address: eylem.ozten@uskudar.edu.tr

**Objective:** A significant revision in criteria related to bipolar disorder in DSM-5 has been done. This study evaluated the impact of these changes on diagnosis and reviewed the challenges that clinicians and researchers will encounter in the use and implementation of DSM-5 criteria for bipolar disorder.

**Methods:** The sample consisted of a total of 82 patients (50 women and 32 men) with a diagnosis of bipolar disorder according to DSM-IV, with an average age of  $36.9 \pm 10.8$  years. All participants had been monitored in our outpatient department for at least 2 years and during that time had received a diagnosis of bipolar disorder. Their last episodes were reviewed according to DSM-5 criteria and changes in diagnosis are evaluated.

**Results:** When using the DSM-5 criteria, there was an increase in the number of cases diagnosed with manic episode compared to using the DSM-IV TR criteria (43 vs. 24 cases). As DSM-5 does not include a mixed episode diagnosis, a portion of the cases (69.3%) diagnosed with mixed episode according to DSM-IV TR were diagnosed with manic episode/additional feature by DSM-5, with the remaining cases 30.7% described as undefined/additional feature

**Conclusion:** Our results suggest that an additional 18.2% of bipolar disorder patients met the diagnostic threshold for manic episode when using DSM-5 criteria, compared to previous criteria. Clinical trials may now also need to focus on treatment effects in patient groups with or without mixed features. Medications that are efficient in treating mixed episodes defined according to DSM-IV TR may also be useful in treating mixed features as defined by DSM-5, but further studies will be required to assess this assumption.

**Keywords:** bipolar disorder, DSM-5

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## PSYCHIATRY IN PRIVATE PRACTICE

### [Abstract:0323] *Psychiatry in private practice*

#### The effect of type D personality on health-related quality of life in patients that underwent upper gastrointestinal endoscopy: a preliminary study

Ertugrul Kargi<sup>1</sup>, Ugur Cakir<sup>2</sup>, Edip Erdal Yilmaz<sup>3</sup>, Taha Can Tuman<sup>2</sup>, Osman Yildirim<sup>2</sup>, Mustafa Sit<sup>1</sup>

<sup>1</sup>Department of General Surgery, Abant Izzet Baysal Training and Research Hospital, Bolu-Turkey

<sup>2</sup>Department of Psychiatry, Abant Izzet Baysal Training and Research Hospital, Bolu-Turkey

<sup>3</sup>Department of General Surgery, Diyarbakır Gazi Yasargil Training and Research Hospital, Diyarbakır-Turkey

e-mail address: tahacantuman@hotmail.com

**Objective:** In contrast to studies investigating the relationship between personality traits with upper gastrointestinal problems, studies investigating the relationship of personality traits and quality of life in these patients are limited. The aim of our study is to investigate the relationship between D-type personality and health-related quality of life in patients that underwent upper gastrointestinal endoscopy.

**Methods:** One hundred and ninety-eight patients over eighteen years of age who had been admitted to the general surgery polyclinic for gastrointestinal complaints and underwent upper gastrointestinal endoscopy were included to our study. First, a sociodemographic questionnaire was given to the patients. Then General Health Survey Short Form-36 (SF-36) was given to assess health-related quality of life. Finally, Type D Scale (DS14) was used for D-type personality traits. Type D Scale has two subscales: negative affect and social inhibition.

**Results:** Ninety-one patients (45.9%) met the criteria for D-type personality (negative affect and social inhibition). One hundred and forty-two patients (71.7%) met the criteria of negative affect subscale of the Type D scale. One hundred and seven (54%) patients met the criteria of social inhibition subscale of the Type D scale.

**Conclusion:** Patients admitted to the general surgery department due to gastrointestinal complaints should be examined in the psychiatry department to be evaluated in terms of type D personality.

**Keywords:** D type personality, negative affect, social inhibition, gastrointestinal system complaints, endoscopy

**Bulletin of Clinical Psychopharmacology 2015;25(Suppl. 1):S172**

### [Abstract:0569] *Psychiatry in private practice*

#### Psychiatric assessment of burned children and adolescents followed in a training and research hospital's burns unit

Hilal Aydemir<sup>1</sup>, Gulser Senses Dinc<sup>1</sup>, Zeynep Goker<sup>1</sup>, Ozden Sukran Uneri<sup>1</sup>, Rabia Demir<sup>2</sup>, Atilla Senayli<sup>2</sup>, Emrah Senel<sup>2</sup>

<sup>1</sup>Department of Child Psychiatry, Ankara Pediatric Hematology Oncology Training and Research Hospital, Ankara-Turkey

<sup>2</sup>Department of Child Surgery, Ankara Pediatric Hematology Oncology Training and Research Hospital, Ankara-Turkey

e-mail address: hilalsevinc38@gmail.com

**Objective:** Burn is a trauma affecting many systems in the human body that may cause temporary or permanent morbidity. Some emotional or social problems are also observed beside physical disorders in burned children or adolescents. This study was aimed to evaluate the psychiatric status of hospitalized children in a burns unit retrospectively.

**Method:** Data of burned children, hospitalized in the Ankara Pediatric Hematology Oncology Training and Research Hospital between June 2013 and August 2014, who were seen by the Child Psychiatry Department, were evaluated. A total of 19 children's data were collected, including demographic features, reasons for consultation, their medical as well as psychiatric evaluation and treatment. All variables were analyzed by using SPSS 17.0 (Chicago Inc., 2008) program.

**Results:** Mean age of cases was 103.6±61.8 months (24-210 months), 68.4% of them (n=13) were male and 31.6% of them were female. The most common cause of burn was accidents (n=15, 78.9%). Burns had arisen from open fire (n=7, 36.8%), liquids like hot water or milk (n=6, 31.6%). The mean percentage of total body surface area burned was 41.7% (11-70% range), and the majority of cases had second and/or third-degree burns (n=11, 57.9%). Mean duration of hospitalization in the burns unit was 42.8±34.1 days (13-128 days). Mean day of psychiatric consultation after hospitalization was 20 (7-52 days) and the mean number of consultations was two (1-5) for all children.

"Sleep problems" was the most common reason for consultation (n=8, 42.1%). Psychiatric evaluation in the first examination resulted as follows: 36.8% (n=7) had "acute stress disorder", 26.3% (n=5) "normal adaptation process", 15.8% (n=3) showed "anxiety disorders", 15.8% (n=3) had "adjustment disorder". It was found that after first psychiatric consultation 42.1% of the patients (n=8) were not recommended any medication. Selective serotonin reuptake inhibitor (SSRI) (36.8%, n=7), hydroxyzine hydrochloride (10.5%, n=2), benzodiazepine (5.3%, n=1) and risperidone (5.3%, n=1) were prescribed in this population.

**Conclusion:** The determination of psychopathology in most children with burns and the finding of "acute stress disorder" as the most common psychopathology in these patients are consistent with the literature. There are few studies regarding treatment of stress emerging after trauma in children. Recognizing early symptoms of these patients is crucial for early psychiatric evaluation and intervention to reduce development of psychiatric comorbidity. There is a need for further studies about pharmacotherapy in pediatric burns patients.

**Keywords:** burns, children, treatment

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## PSYCHOSOMATIC DISORDERS

[Abstract:0242] *Psychosomatic disorders*

### Evaluation of psychiatry consultations requested for inpatients in a university hospital

Hasan Mayda<sup>1</sup>, Halil Ibrahim Guzel<sup>2</sup>, Yasemin Gorucu<sup>3</sup>, Erman Bagcioglu<sup>3</sup>

<sup>1</sup>Department of Psychiatry, Mardin Kiziltepe State Hospital, Mardin-Turkey

<sup>2</sup>Department of Psychiatry, Konya Aksehir State Hospital, Konya-Turkey

<sup>3</sup>Department of Psychiatry, Afyon Kocatepe University, Faculty of Medicine, Afyonkarahisar-Turkey

e-mail address: drhiguzel@hotmail.com

**Objective:** The objective of our study was to evaluate the socio-demographic data, psychiatric diagnosis according to the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) of patients, referral rates of medical and surgical clinics, and reasons for referrals in inpatients who were requesting psychiatric consultation.

**Methods:** This study was conducted in Afyonkarahisar, in a 530-bed university hospital. For a period of six months, retrospective data was collected from 124 inpatients who had requested psychiatric consultations. Psychiatric diagnoses were based on DSM-IV.

**Results:** Mean age of patients was 50.1±19.7. Seventy (56.5%) patients were female and 54 (43.5%) were male. The most frequent referral clinics were internal medicine (24.2%), followed by neurology (14.5%), physical medicine (14.5%), and rehabilitation (11.3%) The most frequent reasons for referral were depressive symptoms (21.8%) somatic complaints (17.7%), agitation and non-compliance to treatment (16.1%) and attempted suicides (10.5%). Psychopathology was determined in the majority of patients (86.3%). Regarding the psychiatric diagnoses, adjustment disorders (21%) were the most common ones.

**Conclusion:** The interaction between psychiatry and other medical clinics is important because psychiatric disorders are more commonly seen among medical and surgical inpatients.

**Keywords:** inpatient, psychiatry, consultation

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[Abstract:0260] *Psychosomatic disorders*

### Temperament and character differences in patients with polycystic ovary syndrome

Ahmet Ozturk<sup>1</sup>, Suna Kabil Kucur<sup>2</sup>, Erdem Deveci<sup>1</sup>, Alperen Kilic<sup>1</sup>

<sup>1</sup>Department of Psychiatry, Bezmialem University, Istanbul-Turkey

<sup>2</sup>Department of Gynecology and Obstetric, Dumlupinar University, Kutahya-Turkey

e-mail address: doktorahmet23@hotmail.com

**Objective:** Polycystic ovary syndrome (PCOS) is the most common endocrine disorder, characterized by hyperandrogenism, chronic anovulation, hyperinsulinemia, obesity, and hirsutism. There are many studies for the evaluation of a variety of psychiatric disorders in PCOS patients, but as far as we know this is the first study evaluating the temperament and character of PCOS patients. We aimed to evaluate the depression, anxiety, temperament and character in some ways in comparison with healthy controls.

**Methods:** Fifty patients with polycystic ovary syndrome and 41 healthy controls were enrolled in the study. Socio-demographical Data Form, Beck Depression Inventory, Beck Anxiety Inventory, and Temperament and Personality Inventory were applied to all participants.

**Results:** PCOS patients (n=51) and healthy volunteers (n=41) were recruited into the study. The mean ages of the participants were 22.3±4.2 and 23.4±3.5 respectively, the difference being insignificant (p>0.05). The PCOS group had significantly higher anxiety and depression scores in Beck anxiety and Depression Inventory in comparison with the control group (p<0.05). When Cloninger's temperament and personality Inventory scores are compared between the two groups, there were no significant differences in any of the subdimensions, neither for the temperament nor the personality (p>0.05).

**Conclusion:** As expected, patients with polycystic ovary syndrome had higher anxiety and depression scores but showed no significant difference in temperament or personality in comparison with the healthy controls. Our study examines a new aspect in this field, and



different results may be obtained if the study is performed for different populations of different age, location, and cultural features. Since temperament and character are affected widely by a variety of factors, different results are possible in different populations. In our opinion it is very important to help PCOS patients with regular psychiatric consultations.

**Keywords:** character, polycystic ovary syndrome, temperament

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**[Abstract:0282] Psychosomatic disorders**

## Metacognitive evaluation in patients with fibromyalgia syndrome

[Sema Inanir<sup>1</sup>](#), [Serap Erdogan Taycan<sup>1</sup>](#), [Ahmet Inanir<sup>2</sup>](#), [Feryal Cam Celikel<sup>1</sup>](#), [Ilker Etikan<sup>3</sup>](#)

<sup>1</sup>Department of Psychiatry, Gaziosmanpasa University, Faculty of Medicine, Tokat-Turkey

<sup>2</sup>Department of Physical Medicine and Rehabilitation, Gaziosmanpasa University, Faculty of Medicine, Tokat-Turkey

<sup>3</sup>Department of Biostatistics, Gaziosmanpasa University, Faculty of Medicine, Tokat-Turkey

e-mail address: [sinanir@gmail.com](mailto:sinanir@gmail.com)

**Objective:** Metacognition is defined as the way of controlling our knowledge and thoughts on “thinking about thinking” and “whether we know something or not”. In this study, we tested the assumption that patients with Fibromyalgia Syndrome (FMS) experience more metacognitive thoughts compared to healthy individuals.

**Methods:** In this study, 202 patients diagnosed as primary FMS and 143 healthy volunteers (all females between 18 and 64 years old) were included. All participants completed the Metacognition-30, Cope, Fibromyalgia Impact Questionnaire (FIQ), Beck Depression Inventory (BDI) and Beck Anxiety Inventory (BAI).

**Results:** The mean age of the patient and the control group were  $43.28 \pm 11.29$  and  $41.13 \pm 11.97$  years, respectively. The FIQ, BDI, BAI, the Metacognition-30 total, and Cope total scores were significantly higher in the patient group. The Metacognition-30 sub-scales including positive beliefs, negative beliefs, cognitive insecurity, need to control thoughts and cognitive awareness scores were also higher in the patient group.

**Conclusion:** It has been reported that etiological explanations of FMS include psychological variables such as depression, anxiety, despair, wrong coping strategies, and certain personal features. In the present study, both BDS and BAS scores were significantly higher in the patient group. Recent studies have identified depression, somatoform, obsessive compulsive disorder, and panic disorders as the most common psychiatric disorders in FMS. FMS could cause lifelong depression, reaching up to 71% occurrence. On the other hand, some studies have reported that FMS is accompanied by anxiety disorders more frequently than by depression. In addition, contrary to the view that there is an association of tender points with incidence and severity of depression in FMS patients, there are studies pointing out that pain severity and number of tender points are positively associated with anxiety level in FMS. In the present study, coping behaviors of the patient and healthy control groups were studied. Denial, behavioral avoidance, substance abuse, need for emotional support, suppression of other activities and total scores were significantly higher in FMS patient group compared to healthy controls. According to the correlation analyses, FIQ had positive correlations with denial, behavioral avoidance and substance abuse, and negative correlation with need for emotional support. The higher use of non-functional coping strategies by patients with FMS could be explained by the assumption that women have more difficulties with physical and psychogenic stresses and tend to deny them. It could hypothesized that the disease may become chronic by frequent use of denial as a coping strategy by FMS patients. Within this context, considering the positive correlation between disease symptoms and cognitive awareness, an increase in awareness of patients could aggravate the focusing on the disease symptoms. FMS patients' dominant usage of suppressing other activities could also lead them to focus on disease symptoms. The results of our study showed that FMS patients use metacognitive thoughts more frequently. Our findings suggest possible contributions of evaluating metacognitive functioning in patients with FMS, by forging a common language among clinicians.

**Keywords:** fibromyalgia syndrome, coping with stress, metacognition

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**[Abstract:0441] Psychosomatic disorders****Relationship between metabolic syndrome and panic disorder**Yasemin Kaya<sup>1</sup>, Esra Yancar Demir<sup>2</sup>, Havva Keskin<sup>3</sup>, Ahmet Kaya<sup>4</sup><sup>1</sup>Department of Internal Medicine, Ordu University, Faculty of Medicine, Ordu-Turkey<sup>2</sup>Department of Psychiatry, Ordu University, Faculty of Medicine, Ordu-Turkey<sup>3</sup>Department of Internal Medicine, Medeniyet University, Faculty of Medicine, Istanbul-Turkey<sup>4</sup>Department of Cardiology, Ordu University, Faculty of Medicine, Ordu-Turkey

e-mail address: edyancar@yahoo.com

**Objective:** Metabolic syndrome (MS) is characterized by central obesity, hyperglycemia, dyslipidemia and hypertension. In recent years, many studies have investigated the prevalence of MS among psychiatric patients. However, there is no data about MS and panic disorder (PD) to date. Therefore, in this study, we aimed to investigate the frequency of MS in patients with PD.

**Methods:** Fifty-nine age- and sex-matched patients with PD (31 female and 28 male) and healthy subjects (35 female and 24 male) were included in this study. Panic disorder was diagnosed using DSM-IV criteria. MS was diagnosed according to the NCEP ATP (National Cholesterol. Education Program Adult Treatment Panel) (1) Abdominal obesity (2) A high triglyceride (TG) level (3) A low HDL(High-density lipoprotein) cholesterol level (4) A high blood pressure (BP) (5) A high fasting blood glucose (FBG).

**Results:** The mean age of PD patients group was  $42.2 \pm 12.1$  and the mean age of control group was  $40.7 \pm 12.7$  ( $p=0.491$ ). The frequency of MS in patients with PD was significantly higher than in the healthy control group (46% vs 13%,  $p<0.001$ ). The differences of MS frequency between PD and healthy group were mainly driven by diastolic blood pressure TG level and waist circumference (WC) ( $p=0.001$   $p=0.022$   $p=0.0016$ , respectively). In terms of waist circumference, in HDL and FBG there were no differences between the patient and control groups.

**Conclusion:** The frequency of MS was increased in patients with PD. This was mainly due to higher frequency of increased diastolic BP, TG level and WC.

**Keywords:** panic disorder, metabolic syndrome, abdominal obesity

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## SCHIZOPHRENIA AND OTHER PSYCHOTIC DISORDERS

[Abstract:0126] *Schizophrenia and other psychotic disorders*

### Effect of caregivers' expressed emotion and attachment patterns on the oxidative stress level in schizophrenic patients

Memduha Aydin<sup>1</sup>, Mehmet Kemal Kuscu<sup>2</sup>, Bahadir Eker<sup>3</sup>, Suha Yalcin<sup>2</sup>, Mehmet Zihni Sungur<sup>2</sup>

<sup>1</sup>Department of Psychiatry, Konya Training And Research Hospital, Konya-Turkey

<sup>2</sup>Department of Psychiatry, Marmara University, Pendik Training and Research Hospital, Istanbul-Turkey

<sup>3</sup>Department of Psychiatry, Golcuk Necati Celik State Hospital, Golcuk, Kocaeli-Turkey

e-mail address: memduhaaydin@yahoo.com

**Objective:** The impact of caregiving on the schizophrenia prognosis has been investigated for a long time. However, there is no study that investigates the possible adverse effect of caregivers' attachment style and expressed emotion on the schizophrenic patient's objective measure of stress, one of which consists in oxidative stress parameters. The idea that oxidative stress has a significant role in development and prognosis of many diseases is being more widely accepted by leading researchers. This study aims to examine the relation between the oxidative stress level in schizophrenics and caregivers' attachment patterns and expressed emotion.

**Methods:** Participants were 20 schizophrenic patients who consulted Marmara University Medical School Hospital outpatient clinic and their mothers and 21 healthy controls and their mothers. Patients were administered the Adult Attachment Scale (AAS), the Positive and Negative Syndrome Scale (PANSS) and the Calgary Depression Scale for Schizophrenia (CDSS). Expressed Emotion Scale (EES), AAS, and the Beck Depression Inventory (BDE) were given to the caregivers of the schizophrenics. AAS and BDE were given to the control group; EES and AAS were given to the control group's caregivers. Blood and urine samples of patient group and control group were examined for oxidative stress parameters including reduced and oxidized forms of glutathione (GSH and GSSG), plasma lipid peroxidation (LP), urine malondialdehyde (MDA), glutathione transferase (GSH-Tr), and catalase (CAT) levels.

**Results:** Results indicate that reduced and oxidized forms of glutathione (GSH and GSSG), plasma lipid peroxidation (LP) and urine malondialdehyde (MDA) levels of patients are higher than those of the control group. Mothers of the patient group show higher levels of insecure attachment (anxious-ambivalent) and lower levels of expressed emotion (emotional over-involvement) compared to control group mothers. Regression analysis show that the main significant predictors of patients' GSSG oxidative stress level is their mothers' emotional over-involvement and mothers' anxious-ambivalent attachment style.

**Conclusion:** Investigations of the nature of attachment styles and expressed emotion in psychosis and how they relate to cognitive, interpersonal and affective factors has been reviewed in recent studies. The usual implication of the association between insecure attachment and high expressed emotion and psychopathology was also found in our sample. The role of oxidative stress in schizophrenia was investigated by evaluating the relationship of oxidative stress markers with psychopathology in recent studies. Our findings regarding oxidative stress levels of schizophrenic patients are similar to those in the psychosis literature. Moreover, in our study, the relation between biological markers and attachment styles and expressed emotion were studied and significant results were reported. If supported by further studies and repeated with higher sample sizes, the relation between oxidative stress parameters and mothers' attachment and expressed emotion levels in schizophrenia will contribute to future psychotherapeutic and psychopharmacological interventions.

**Keywords:** caregiver, oxidative stress, schizophrenia, expressed emotion

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**[Abstract:0155] Schizophrenia and other psychotic disorders****Treatment adherence and its association with insight, quality of life and other clinical variables in patients with bipolar disorder and schizophrenia in remission**

[Aysun Demir Ozdemir](#)<sup>1</sup>, [Leman Inanc](#)<sup>2</sup>, [Umit Basar Semiz](#)<sup>3</sup>, [Huseyin Gulec](#)<sup>1</sup>

<sup>1</sup>Department of Psychiatry, Erenkoy Mental Health Training and Research Hospital, Istanbul-Turkey

<sup>2</sup>Department of Psychiatry, Tokat Mental Health and Diseases Hospital, Tokat-Turkey

<sup>3</sup>Department of Psychiatry, Mugla Sitki Kocman University Training and Research Hospital, Mugla-Turkey

e-mail address: draysundemir@hotmail.com

**Objective:** The present study aimed to examine the association of treatment adherence with insight, quality of life and other clinical variables among subjects with bipolar disorder and schizophrenia who were in remission. This paper also aims to identify predictors of treatment adherence.

**Methods:** The sample consisted of 300 consecutive admissions to the outpatient clinic at a tertiary care psychiatric research and education hospital during a 13-month study period (from May 2012 through June 2013). One hundred and fifty patients diagnosed with schizophrenia and 150 patients diagnosed with bipolar disorder were involved in the trial. The schizophrenia patient group and the bipolar disorder group were both administered the following battery of tests: Mini International Neuropsychiatric Interview, Brief Psychiatric Rating Scale (BPRS), the Schedule for Assessing the Three Components of Insight (SAI), World Health Organization Questionnaire on Quality of Life: Short Form (WHOQOL-BREF), Beck Cognitive Insight Scale (BCIS), UKU (Udvalg for Kliniske Undersøgelser) Side Effect Rating Scale, MARS (Medication Adherence Rating Scale), McEvoy (McEvoy treatment observation form). Logistic regression was used to determine significant variables associated with treatment adherence to medication.

**Results:** The results demonstrated that subjects with bipolar disorder in remission had similar levels of quality of life in all four domains compared to those with schizophrenia in remission. No group differences for BPRS scores, treatment adherence and overall insight were found. Correlation analyses indicated that re-labeling of psychotic phenomena domain of insight scale was negatively correlated to quality of life in all four domains. To explore which clinical variables lead to a greater risk for treatment non-adherence in patients with schizophrenia and bipolar disorder, a logistic regression equation was computed. Dependent variable was MARS (treatment adherent vs. non-adherent), while independent variables involved diagnosis (schizophrenia vs. bipolar disorder), gender, duration of illness, BPRS scores, UKU scores, BCIS scores. The results of this logistic regression analysis indicated that only the total score of insight scale is a predictor of treatment adherence even when other potential factors were controlled for. The secondary analysis was a logistic regression with forward selection of BCIS subscores.

**Conclusion:** The treatment compliance domain of insight scale seems to be a key variable in the prediction of treatment adherence in patients with schizophrenia and bipolar disorder.

**Keywords:** bipolar disorder, insight, schizophrenia

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**[Abstract:0178] Schizophrenia and other psychotic disorders****Prevalence of metabolic syndrome in patients of a community mental health center**

[Kader Semra Karatas](#)

Department of Psychiatry, Rize State Hospital, Rize-Turkey

e-mail address: drsemraocak@yahoo.com

**Objective:** Metabolic syndrome (MetS) is a public health problem with high morbidity and mortality with cardiometabolic complications increasingly common all over the world. The prevalence of MetS is 25-31% in American Society. In our country, the prevalence of MetS is between 33.9 and 41.4% in the normal population. In psychiatric diseases like schizophrenia or bipolar diseases, the MetS risk is high and for the prevalence, a broad range of 5.6-63% has been given. Recent studies show that MetS prevalence is 18.9-42.5% in schizophrenia in our country. We researched the prevalence of MetS among patients who are taking antipsychotics in a community mental health center. Our aim was to detect and prevent MetS to reduce patients morbidity and mortality.

**Methods:** We searched chronic psychiatry patient files retrospectively for the period of March 2012-November 2014 in a community mental health center.

**Results:** There were 205 patients, including 82 (40%) female and 123 (60%) male. 121 (59%) of the patients were diagnosed with schizophrenia, 74 (36.1%) of patients diagnosed with bipolar disorder and 10 (4.9%) with schizoaffective disorder. In females, the average of HDL was 54.1, triglyceride 166.8, glucose 118, waist circumference 106.2 and systolic-diastolic blood pressure 117.4-77.6, in males, the average of HDL was 43, triglyceride 196, glucose 102.9, waist circumference 103 and systolic-diastolic blood pressure 120-79.1. The most used antipsychotic was olanzapine (23.9%), followed by aripiprazole (19%); the third one was quetiapine (6.6%), the fourth one clozapine (11.2%), the fifth risperidone (10.7%). There were 57 cases (27.8%) of MetS among 205 patients, 26 (45.6%) of them female, 31 (54.3%) of them male.

**Conclusion:** It has been indicated that MetS is more common in chronic psychiatric diseases than in the community overall. Genetic and environmental factors can cause MetS; its basic physiopathology includes insulin resistance and fatty tissue malfunctions. Patients who are treated with antipsychotics can experience weight gain, glucose metabolism abnormalities, prediabetic formation or diabetes. These adverse effects, individually or jointly, can cause MetS and cardiovascular diseases. Cardiovascular diseases are one of the common causes of early death in psychiatric diseases like schizophrenia and bipolar disorder. It is important to recognize MetS and its changeable components, as it can also be curable. Clinicians treating schizophrenia or bipolar disorder with antipsychotics must be careful about metabolic changes. Metabolic parameters such as HDL, triglyceride, blood arterial pressure, glucose, or waist circumference can easily be measured and thus morbidity and mortality of MetS and cardiovascular diseases can be reduced.

**Keywords:** bipolar disorder, metabolic syndrome, schizophrenia

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### [Abstract:0197] Schizophrenia and other psychotic disorders

## Thyroid function test abnormalities in treatment-resistant schizophrenia

[Ertac Sertac Orsel](#), [Atila Erol](#), [Hilal Kapudan](#), [Semra Karayilan](#), [Mustafa Ozten](#)

Department of Psychiatry, Sakarya University, Faculty of Medicine, Sakarya-Turkey  
e-mail address: sertacorsel@gmail.com

**Objective:** The relationship between thyroid dysfunction and mood disorders is well recognized. Thyroid function abnormalities are bad prognostic factors in mood disorders, and augmentation with thyroid hormone has therapeutic efficacy in treatment-resistant depression and bipolar depression. Several studies have revealed a high prevalence of thyroid dysfunction in patients with schizophrenia. Rajiv et al found that hypothyroidism was observed 25.17%; hyperthyroidism was observed 4.08%; in total, an abnormal thyroid hormonal status was observed in 29.3% of patients with schizophrenia spectrum disorder. This was comparable with data reported in a hospital sample in South-East Asia showing that 36.4% of patients with schizophrenia had thyroid dysfunction. Kelly et al. found that abnormal values were 13% for TSH and 9% for total T4 in treatment-resistant schizophrenia. Baumgartner et al. measures thyroid functions in 31 acutely ill patients with schizophrenia before and after four weeks' treatment. They found that their T4 levels showed a positive correlation with the severity of illness, and there was a significant fall in serum T4 after treatment. The association between thyroid dysfunctions and schizophrenia remains insufficiently understood. There is no literature on the rates of thyroid dysfunction among patients with treatment-resistant schizophrenia. The aim of this study was to examine the incidence of abnormal thyroid hormonal status in patients with treatment-resistant schizophrenia.

**Methods:** Schizophrenia patients undertaking two or more treatment trials of at least two groups of conventional antipsychotic for least 4-6 weeks, showing no response to treatment, have been evaluated. A total of 92 cases, 51 male, 39 female were accepted. Serum concentrations of free unbound fractions of triiodothyroxine (FT3), free unbound fractions of L-thyroxine (FT4) and thyroid stimulating hormone (TSH) were measured.

**Results:** Mean age of the patients was  $36.1 \pm 10.3$  years. The duration of psychiatric history was  $9.9 \pm 7.7$  years. Mean hospitalization of the patients was  $2.7 \pm 1.6$  times. Test results of thyroid hormone measurement were normal in 73.9%. The percentage of abnormal thyroid values was 6.5% for serum FT3, 8.6% for serum FT4, and 14.1% for serum TSH. 6 patients showed abnormal FT3; 3 of them had low FT3, 3 of them high FT3. Of 8 patients with abnormal FT4, 1 had low FT4, 7 high FT4. Of 13 patients with abnormal TSH, 11 had low TSH, 2 had high TSH. In our study, the rate of hyperthyroidism was 19.5%; hypothyroidism was 6.5%; total thyroid dysfunction was 26.1% with treatment-resistant schizophrenia.

**Conclusion:** Abnormal thyroid hormonal status was found in 26.1% of patients with treatment-resistant schizophrenia in our study. While thyroid dysfunction in schizophrenia patients generally tends to be hypothyroidism, in our study hyperthyroidism was observed more than hypothyroidism in treatment-resistant schizophrenia. Additional research is needed to investigate the relationship between treatment-resistant schizophrenia and thyroid dysfunction.

**Keywords:** schizophrenia, thyrotropin, treatment resistant

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**[Abstract:0311] Schizophrenia and other psychotic disorders****The alteration of facial emotion recognition ability after clozapine use in patients with treatment-resistant schizophrenia**

Gozde Gultekin, Erhan Yuksek, Alper Bas, Tuba Ocek Bas, Alaattin Duran, Murat Emul

Department of Psychiatry, Istanbul University, Cerrahpasa Faculty of Medicine, Istanbul-Turkey

e-mail address: gozdee\_gultekinn@hotmail.com

**Objective:** In the literature, a deficit in facial emotion recognition in schizophrenia is usually reported, which may be considered in relation with impairments in social and work functioning and independent living. Interestingly, this deficit is mentioned in medication-free patients with schizophrenia or in individuals at risk for developing a psychosis. Clozapine has been reported to have beneficial effects on attention, executive functions, and working memory and is recommended for the management of treatment-resistant schizophrenia. Here we investigated changes of facial emotion recognition ability after clozapine use in patients with treatment resistant schizophrenia.

**Methods:** Twelve inpatients with treatment-resistant schizophrenia (F=7, M=5) were included in the study who were of an average age of  $33.25 \pm 9.17$  years. The patients were evaluated in the basal state and 4-5 months later according to Facial Emotion Recognition Test of Ekman's series and PANSS. Wilcoxon Signed Rank Test was used.

**Results:** The mean dose of clozapine was  $287.50 \pm 77.23$  mg/day. The mean positive score ( $21.50 \pm 6.23$  vs  $10.78 \pm 2.86$ ), the mean general psychopathology score ( $38.83 \pm 7.50$  vs  $25.67 \pm 5.93$ ) and the mean total score ( $82.50 \pm 18.47$  vs  $53.67 \pm 11.74$ ) according to PANSS were significantly improved after clozapine treatment ( $p < 0.05$ , for each). There were no significant differences between basal state and after clozapine treatment according to recognition of facial emotion expressions ( $p > 0.05$  for each). There were no significant differences between basal state and after clozapine treatment according to required time to recognize facial emotion expressions ( $p > 0.05$  for each).

**Conclusion:** In one study, the accuracy rate of facial emotion recognition was not significantly different between healthy controls ( $n=15$ ) and patients with treatment-resistant schizophrenia who were receiving a  $470 \pm 173$  mg/day dose of clozapine. However, the basal accuracy rates according to facial emotion recognition were lacking and the authors did not discuss the change of facial emotion recognition ability after clozapine use. Interestingly, in a study, no differences between first or second generation antipsychotic drugs or within each group (i.e., olanzapine vs clozapine) were revealed in patients with schizophrenia according to facial emotion recognition ability. The improvement in negative symptoms is suggested to have a positive impact on facial emotion recognition ability. Thus, we consider that either the clozapine does not affect facial emotion recognition ability, although there is a definite influence on positive and general psychopathology, or clozapine did not improve facial emotion recognition ability because of ineffectiveness with negative symptoms as in our study.

**Keywords:** clozapine, facial emotion recognition, schizophrenia

**Bulletin of Clinical Psychopharmacology 2015;25(Suppl. 1):S180**

**[Abstract:0443] Schizophrenia and other psychotic disorders****Alternative and complementary treatment use in patients with schizophrenia: a study from Turkey**Ethem Soyucok<sup>1</sup>, Ahmet Ozturk<sup>1</sup>, Halil Ibrahim Guzel<sup>2</sup>, Bulent Bahceci<sup>3</sup>, Ismail Volkan Sahiner<sup>4</sup>, Hasan Mayda<sup>5</sup>, Abdullah Akpinar<sup>6</sup>, Erman Bagcioglu<sup>7</sup>

<sup>1</sup>Department of Psychiatry, Dumlupinar University, Faculty of Medicine, Kutahya-Turkey

<sup>2</sup>Department of Psychiatry, Konya Aksehir State Hospital, Konya-Turkey

<sup>3</sup>Department of Psychiatry, Recep Tayyip Erdogan University, Faculty of Medicine, Rize-Turkey

<sup>4</sup>Department of Psychiatry, Oncology Hospital, Ankara-Turkey

<sup>5</sup>Department of Psychiatry, Mardin Kiziltepe State Hospital, Mardin-Turkey

<sup>6</sup>Department of Psychiatry, Suleyman Demirel University, Faculty of Medicine, Isparta-Turkey

<sup>7</sup>Department of Psychiatry, Afyon Kocatepe University, Faculty of Medicine, Afyonkarahisar-Turkey

e-mail address: drhiguzel@hotmail.com

**Objective:** The aim of this study is to examine the prevalence and characteristics of complementary and alternative medicine (CAM) use in Turkish people with schizophrenia.

**Methods:** This cross-sectional survey of patients with schizophrenia was carried out in the cities of Rize, Kutahya, Isparta, Afyon, and

Ankara in Turkey. Three hundred and sixty-six patients with a diagnosis of schizophrenia confirmed by clinical assessment in the psychiatric outpatient clinics were recruited to the study. Survey questionnaire was administered face-to-face by psychiatrists

**Results:** Results of the 366 patients with schizophrenia in the study, 117 patients (32%) stated that they had used at least one CAM therapy in the last six months, while 249 (68%) patients stated that they had not used CAM. Younger age, female, living in rural areas and shorter disease duration appear to be related to CAM use in schizophrenia patients. The most common type of CAM used was spiritual healing by others (58.5%). To cope with schizophrenia (55.9%) was the most common reason cited for CAM users.

**Conclusion:** Almost one third of patients with schizophrenia use CAM therapies in Turkey. This should be investigated and taken into account by psychiatrists.

**Keywords:** complementary therapies, alternative therapies, schizophrenia

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### [Abstract:0473] Schizophrenia and other psychotic disorders

## Comparing cognitive functions of smoking and non-smoking patients with schizophrenia

Semra Karayilan<sup>1</sup>, Murat Emul<sup>2</sup>, Atila Erol<sup>1</sup>

<sup>1</sup>Department of Psychiatry, Sakarya University Training and Research Hospital, Sakarya-Turkey

<sup>2</sup>Department of Psychiatry, Istanbul University, Cerrahpasa Faculty of Medicine, Istanbul-Turkey

e-mail address: skryln@gmail.com

**Objectives:** Patients suffering from schizophrenia have a high prevalence of cognitive function impairments even though they are in remission. Schizophrenia is associated with cognitive deficits including verbal learning and memory, attention, problem solving, visual learning and memory, executive function and working memory. Available data suggests that dysregulation of the neuronal nicotinic acetylcholine receptor (nAChR) system contributes to the pathophysiology of schizophrenia and nAChR stimulation has a positive effect on cognitive functions in schizophrenia. It is known that the frequency of smoking in schizophrenic patients is higher than in the normal population and the cessation of smoking is more difficult in these individuals. One of the major reasons for this situation lies in the beneficial neuropsychological effects of nicotine provided to patients with schizophrenia. This study aimed to compare cognitive functions of smokers and non-smoking patients with schizophrenia by using neurocognitive tests.

**Methods:** The study sample consisted of 58 smokers (mean age: 35.32±8.26; education level: 9.36±3.12 years) and 40 non-smokers (mean age: 35.17±7.35; education level: 9.00±2.99 years) patients diagnosed with schizophrenia (SCZ) who were in a follow-up program at Sakarya University Education and Research Hospital. All participants were made to perform Trail Making Test (TMT), Stroop Color Word Test (SCWT), Rey Auditory Verbal Learning Test (VLT) and the Wechsler Memory Scale-Visual Production Subscale (WMS-V) to measure their neurocognitive functions.

**Results:** There were no statistically significant differences between groups regarding mean age, gender, average education period, age of illness onset and duration of illness. There was no significant difference between SCZ smokers and non-smokers in TMT-A time, but SCZ smokers significantly performed TMT-B in a shorter time. There were no significant differences between SCZ smokers and non-smokers in response times of Stroop 1 (reading the color words colored in different ink) and Stroop 2 (saying the names of colors written in different ink), the number of word corrections and word errors associated with Stroop 1 and Stroop interference. Significant group differences were found just only for the number of color corrections and color errors associated with Stroop 2 where SCZ non-smokers were observed to have more difficulties. The differences in VLT and WMS-V between two groups were significant. SCZ smokers were observed to perform higher than SCZ non-smokers in highest learning scores, total learning scores and long-term memory scores of VLT sub-tests and WMS-visual memory scores.

**Conclusions:** In general, this study revealed that the differences in impairments of cognitive skills between the two groups were significant in favor of SCZ smokers. There is evidence to suggest that SCZ smokers performed better than the non-smokers group, particularly in the tests measuring attention, verbal and visual memory, and working memory. These findings, consistent with previous studies, supported the 'self-medication hypothesis' for smoking in schizophrenia which assumes patients' trying unconsciously to improve cognitive deficits of schizophrenia by nicotine administration.

**Keywords:** cognition functions, schizophrenia, smoking

**Bulletin of Clinical Psychopharmacology 2015;25(Suppl. 1):S181**

**[Abstract:0538] Schizophrenia and other psychotic disorders****Comorbid nicotine, alcohol and drug use among patients with schizophrenia**Yasir Safak<sup>1</sup>, Akfer Kahilogullari<sup>1</sup>, Ilker Ozdemir<sup>1</sup>, Sevilay Buzluk<sup>1</sup>, Asena Akdemir<sup>2</sup>, Sibel Orsel<sup>1</sup>, Hasan Karadag<sup>1</sup><sup>1</sup>Ankara Diskapi Yildirim Beyazit Training and Research Hospital, Ankara-Turkey<sup>2</sup>Liv Hospital, Istanbul-Turkey

e-mail address: dr.yasirsafak@yahoo.com

**Objective:** Co-occurring nicotine, alcohol, and drug use among patients with schizophrenia is high. Comorbidity of alcohol and drug use may worsen functionality. Prevalence of alcohol and drug use among patients with schizophrenia is reported as 10-70% and nicotine use escalates this rate up to 80%. Epidemiologic Catchment Area Study showed that prevalence of alcohol and drug use disorders is 47%. Studies on comorbidity of alcohol-drug use disorders and schizophrenia are limited in Turkey. One of the largest study on this area showed that 50% of patients with schizophrenia has a co-occurring alcohol or drug use, 17% of patients were using both. Nicotine use of patients with schizophrenia may be ignored by the clinicians. The frequency of nicotine use among patients with schizophrenia is reported to be 58-90%, 2.5-4.5-fold the rate of the general population in the USA. A study from Turkey showed that 50% of patients with schizophrenia are using nicotine and 31% of them are heavy smokers. Different from the world literature, the prevalence of nicotine use is similar to that found in studies based on the general population in Turkey. Alcohol use prevalence is reported as 44.9% while alcohol use disorders prevalence is reported as 8.2% and marijuana use disorder as 2%.

**Methods:** The study comprised 156 outpatients with diagnosis of schizophrenia. Demographic characteristics of patients, nicotine, alcohol, and drug use were evaluated. Chi-square and t-tests are used for the statistical analysis.

**Results:** 59.6% (93) of patients were male and 40.4% (63) patients were female. Mean age was calculated as 34.96±11.95. 53.8% (84) of patients reported nicotine use. Nicotine use prevalence among male patients was 73.1% (68) while it was 25.4% (16) in female patients. Alcohol or drug use rate was 18.6%. The alcohol use rate was 13.5% and marijuana use was 5.1%. Prevalence of alcohol use in female patients was 1.6% while it was 21.5% for male patients. Marijuana use was reported by only male patients.

**Conclusion:** Results of our study are similar to other studies in terms of nicotine use while alcohol use rates in our patient population are lower than in other studies covering outpatients in Turkey. The alcohol use rate was similar to that found in the literature among male patients but significantly lower in female patients. The variety of drugs used was similar to the literature. Nicotine use rates were higher than in the general population for both genders (41.5% vs. 73.1% for males and 13.1% vs. 25.4% for females) and similar to previous studies covering patients with schizophrenia. It is interesting that the general decline of smoking rates in Turkey does not include patients with schizophrenia. In conclusion, our results emphasize the importance of actions for preventing and treating alcohol and drug-use disorders (including nicotine use disorder) in this patient group.

**Keywords:** schizophrenia, alcohol and drug use, prevalence

**Bulletin of Clinical Psychopharmacology 2015;25(Suppl. 1):S182**

**[Abstract:0547] Schizophrenia and other psychotic disorders****Nicotine use among patients with schizophrenia**Akfer Kahilogullari<sup>1</sup>, Yasir Safak<sup>1</sup>, Sevilay Buzluk<sup>1</sup>, Ilker Ozdemir<sup>1</sup>, Guler Alpaslan<sup>2</sup>, Hasan Karadag<sup>1</sup>, Sibel Orsel<sup>1</sup><sup>1</sup>Department of Psychiatry, Ankara Diskapi Yildirim Beyazit Training and Research Hospital, Ankara-Turkey<sup>2</sup>Department of Psychiatry, Baskent University Healthcare Group, Ankara-Turkey

e-mail address: dr.yasirsafak@yahoo.com

**Objective:** The frequency of nicotine use among patients with schizophrenia is reported to be 2.5-4.5-fold that of the general population. Studies on the relation between nicotine use and psychopathology, sociodemographic characteristics, symptoms and biological markers among patients with schizophrenia are limited in Turkey. In these surveys nicotine use was found to be correlated with a decrease in severity of negative symptoms, and an increase in cognitive functioning. On the other hand it is probable that patients with schizophrenia tend to use nicotine for decreasing side effects of their drugs. In this study we aim to evaluate relation of nicotine use with symptomatology, drug use and other clinical characteristics.

**Methods:** A total of 156 patients with diagnosis of schizophrenia enrolled into the study. The demographic characteristics of patients, nicotine use and disease symptomatology were evaluated. Brief Psychiatric Rating Scale (BPRS), Scale of Assessment for the Positive



Symptoms (SAPS), Scale of Assessment for the Negative Symptoms (SANS) and Calgary Depression Scale were used to evaluate symptomatology. Chi-square and t-tests are used for statistical analysis.

**Results:** 59.6% (93) of patients were male and 40.4% (63) patients were female. Mean age was calculated as  $34.96 \pm 11.95$ . 53.8% (84) of patients had nicotine use. Nicotine use prevalence among male patients was 73.1% (68) while it was 25.4% (16) in female patients. Clinical features, SANS, SAPS, BPRS and Calgary Depression Scale rates were similar in nicotine user and non-user groups. Mean equivalent antipsychotic dosage for nicotine user group was 697.61 while it is calculated as 520.55 for the non-user group. The difference was statistically significant ( $t=3.288$ ,  $df=154$ ,  $p=0.001$ ). Correlations of daily smoke amount, pack-years of cigarette smoking and symptomatology were evaluated. Pack-years of cigarette smoking were found negatively correlated with total SANS score, SANS affective flattening, SANS anhedonia subscale and SAPS inappropriate affect subscale.

**Conclusion:** Results of our study are similar to other studies' in terms of nicotine use and showed higher nicotine use rates than in the general population. Correlations of nicotine use and clinical scales were supporting results of previous studies. Although clinical rating scale scores are similar, the difference in equivalent doses of antipsychotics is statistically significant. This may be related with nicotine's effect on the metabolism of antipsychotics, but the issue needs further assessment.

**Keywords:** schizophrenia, nicotine use, clinical features

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### [Abstract:0571] Schizophrenia and other psychotic disorders

## Relationship between dissociative symptoms with insight in patients with schizophrenia

Turkan Dogan<sup>1</sup>, Mehmet Emrah Karadere<sup>2</sup>, Ece Yazla<sup>2</sup>

<sup>1</sup>Department of Psychiatry, Aksaray State Hospital, Aksaray-Turkey

<sup>2</sup>Department of Psychiatry, Hitit University, Faculty of Medicine, Corum-Turkey  
e-mail address: karadere26@yahoo.com

**Objective:** Dissociation is frequently associated with psychiatric illness, with a prevalence of up to 25% among patients with a psychiatric disorder and a prevalence of up to 60% in cases of schizophrenia.

There is a growing awareness of the relationship between psychotic symptoms and dissociation. Studies have found associations between severity of psychotic symptoms and dissociation. Dissociation is often related to psychological stress. These findings call into question the hypothesized direct effects of psychotic symptoms on dissociation. We hypothesized that psychotic symptoms (e.g., hallucination) would cause psychological stress on patients with schizophrenia. We also hypothesized that if patients with schizophrenia show good insight, the psychological stress on schizophrenic patients caused by the psychotic symptoms would be reduced. Reduced psychological stress also decreases the level of dissociation. The aim of this study was to investigate the relationship between psychotic symptoms, dissociation and insight in patients with schizophrenia.

**Methods:** Forty-six patients with a schizophrenia diagnosis according to DSM-IV TR criteria were recruited into the study. Each subject completed a semi-structured face-to-face interview that included the Scale for Assessment of Positive Symptoms (SAPS), the Scale for Assessment of Negative Symptoms (SANS), Clinical Global Impressions Severity Scale (CGI-S), and Brown Assessment of Beliefs Scale (BABS). Patients with posttraumatic stress disorder were excluded.

**Results:** Dissociation was associated with more severe symptoms of schizophrenia. Significant correlation was found between SDQ scores and CGI-S scores ( $r=0.37$ ,  $p<0.01$ ). Schizophrenic patients with high scores in SAPS had higher scores in SDQ ( $r=0.34$ ,  $p<0.05$ ). While positive symptoms of schizophrenia were correlated with SDQ scores, there was no correlation between negative symptoms of schizophrenia and SDQ scores ( $p>0.05$ ). There was a significantly positive correlation between BABS and SANS scores ( $r=0.56$ ,  $p<0.01$ ) and there was also some correlation between BABS and SAPS scores ( $r=0.33$ ,  $p<0.05$ ). We found no significant impact of insight on the level of dissociation measured by SDQ ( $p>0.05$ ).

**Conclusion:** In the present study, those with more severe schizophrenic symptoms were also characterized by high dissociation. We also indicated that dissociation is associated with positive schizophrenic features. These findings are similar to previously published studies. The previous studies used the Dissociative Experience Scale (DES) which is an instrument unsuitable for dissociative disorders in patients with schizophrenia. In addition, the previous studies have not examined the somatoform manifestation of dissociative processes. In the present study we use the Somatoform Dissociation Questionnaire (SDQ) which includes appropriate measures to cover also somatoform type of dissociative symptoms. Results of the present study are in agreement with previous studies which used DES as an instrument for measuring dissociative symptoms.

**Keywords:** dissociation, schizophrenia, insight

**Bulletin of Clinical Psychopharmacology 2015;25(Suppl. 1):S183**

**[Abstract:0753] Schizophrenia and other psychotic disorders****Association of drugs and presence or development of obsessive-compulsive symptoms in schizophrenia patients: a naturalistic longitudinal observation during hospitalization**Ugras Erman Uzun, [Feride Betül Yılmaz Sahin](#), Tuba Cirakoglu, Emrullah Dundar, Baris Sancak, Murat ErkiranBakirkoy Training and Research Hospital for Psychiatry, Neurology and Neurosurgery, Istanbul-Turkey  
e-mail address: fbetul\_yilmaz@hotmail.com**Objective:** To investigate existing obsessive-compulsive symptoms in hospitalized schizophrenia patients and to observe the association of these symptoms and medical treatment from hospitalization to discharge.**Methods:** This study included 45 patients with schizophrenia hospitalized at the men's psychotic disorders clinic at Bakirkoy Mazhar Osman Mental Health and Neurological Diseases Education and Research Hospital in April-May 2014. Patients were reevaluated at hospitalization with SCID-I (The Structured Clinical Interview for DSM-IV Axis I Disorders) by a psychiatrist to confirm the diagnosis and to define any additional diagnosis. Particular socio-demographic and clinical features are received. Obsessive-compulsive symptoms severity was measured with the Yale-Brown Obsessive Compulsive Scale (Y-BOCS), psychotic symptoms severity with the Positive and Negative Syndrome Scale (PANSS).**Results:** A total of 12 out of 45 patients had obsessive compulsive symptoms. We had two group of patients, Group I without antipsychotic treatment for at least 3 months (19 patients) and group II with antipsychotic treatment (26 patients). Group I had higher PANSS positive, PANSS negative and PANSS total scores and group II had higher Y-BOCS scores at the time of hospitalization.**Conclusion:** Our results show that the patients with obsessive compulsive symptoms had higher PANSS scores.**Keywords:** schizophrenia, obsessive compulsive symptom, clozapine**Bulletin of Clinical Psychopharmacology 2015;25(Suppl. 1):S184****[Abstract:0754] Schizophrenia and other psychotic disorders****Regional gray matter alterations in schizophrenia: a voxel-based morphometric study**[Celaleddin Turgut](#)<sup>1</sup>, [Mustafa Yildiz](#)<sup>1</sup>, [Yonca Akgoz Anik](#)<sup>2</sup>, [Burcu Aksoy](#)<sup>3</sup><sup>1</sup>Department of Psychiatry, Kocaeli University, Faculty of Medicine, Kocaeli-Turkey<sup>2</sup>Department of Radiology, Kocaeli University, Faculty of Medicine, Kocaeli-Turkey<sup>3</sup>Department of Psychiatry Nursing, Dokuz Eylul University, Faculty of Nursing, Izmir-Turkey, Department of Psychiatry, SoCAT Lab, Ege University, Faculty of Medicine, Izmir-Turkey

e-mail address: celaleddinturgut@gmail.com

**Objective:** Schizophrenia is a heterogeneous psychiatric disease with a vast array of clinical symptoms. It is thought that this large spectrum of symptoms is associated with different etiological factors and treatment response. Therefore, it is not surprising to come across inconsistent neuroimaging findings in patients, as those findings are reflections of symptoms. To clarify the effect of the disease (e.g., duration of illness) and nuisance (e.g. antipsychotic treatment) factors would help us to interpret the current findings in schizophrenia patients. The aim of our study is to investigate the effects of the disease and disease-related clinical parameters (duration of illness, antipsychotic treatment, number of psychotic episode) on the brain structures.**Methods:** Thirty-three schizophrenic patients and 35 age-, gender- and education-matched healthy volunteers participated in our study. Patients and healthy controls were given a questionnaire assessing sociodemographic characteristics. Structured Clinical Interview for DSM IV (SCID-I) was applied to the patients. Lifetime antipsychotic exposure was determined for the patients and inverted dose/year unit over equivalent chlorpromazine doses. Magnetic resonance images were acquired with a 3 Tesla powered imaging unit. By using Statistical Parametric Mapping 8, images were compared with voxel-based morphometry (VBM) analysis. T-test, Chi-square test and Mann-Whitney U test for statistical evaluation based on the data characteristics were used. By using general linear model (GLM), age, gender and total brain volume were included as confounding factors in the analyze matrix in VBM. In GLM, t-test was used to compare two groups, and to investigate disease process-related GM changes, multiple regression analysis was applied. In VBM, p values <0.001 and areas with a minimum expected number of voxels per cluster of 50 are required.**Results:** Compared to controls, patients showed decrements in gray matter density in the right middle and inferior temporal gyrus,

bilateral middle frontal gyrus, left cingulate gyrus, left precentral gyrus, left supramarginal gyrus. Nevertheless, patients showed increased GM density in right uncus, left caudate and left posterior cingulate cortex as compared to controls. In the patient group, duration of illness was negatively associated with GM density in left precentral gyrus and left postcentral gyrus. The lifetime exposure to antipsychotics correlated negatively and positively with gray matter density in, respectively, the left inferior frontal gyrus and the right precuneus. The number of psychotic episodes was positively associated with GM density in the left medial frontal gyrus, right precentral gyrus and left paracentral lobule and negatively in the uvula (cerebellum).

**Conclusion:** Our data suggested that GM deficits in schizophrenic patients are prominent in frontal and temporal areas. Furthermore, illness duration, antipsychotic treatment and number of psychotic episodes were associated with changes in brain GM. Further studies are needed to clarify the increase in the limbic lobe GM density.

**Keywords:** gray matter, schizophrenia, voxel based morphometry

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## SEXUAL AND GENDER IDENTITY DISORDERS

[Abstract:0251] *Sexual and gender identity disorders*

### Sexual functions and quality of life in women with obsessive-compulsive disorder

[Sema Inanir<sup>1</sup>](#), [Leman Inanc<sup>1</sup>](#), [Ali Irfan Gul<sup>2</sup>](#), [Bulent Cakmak<sup>3</sup>](#), [Ahmet Inanir<sup>3</sup>](#)

<sup>1</sup>Department of Psychiatry, Tokat Mental Health and Diseases Hospital, Tokat-Turkey

<sup>2</sup>Department of Psychiatry, Bozok University, Yozgat-Turkey

<sup>3</sup>Department of Psychiatry, Gaziosmanpasa University, Tokat-Turkey

e-mail address: [sinanir@gmail.com](mailto:sinanir@gmail.com)

**Objective:** Obsessive-compulsive disorder (OCD) is a disabling disorder frequently following a chronic course and presenting with obsessions and/or compulsions. OCD is one of the most incapacitating disorders affecting the patient's quality of life. Many aspects of quality of life are unfavorably affected by OCD. Problems related to sexual functions negatively affect the quality of life. Sexual problems of OCD patients induce quality-of-life impairments also. Reports of sexual dysfunctions of the women with OCD have appeared in the earlier literature. The present study aimed to compare women with OCD and a healthy group in terms of anxiety, depression, health-related quality of life and sexual function. The second purpose is to explore the relationship between sexual dysfunction and quality of life.

**Methods:** In this cross-sectional study, we enrolled 123 women (41 patients, 82 controls). Participants were asked to complete questionnaires measuring anxiety, depression, quality of life, and sexual functioning. Patients and healthy controls were evaluated by the Beck Anxiety and Beck Depression Scale, the Female Sexual Function Index (FSFI), the Turkish version of Short Form Health Survey (SF-36), and demographics questionnaire.

**Results:** The OCD group had significantly higher depression and anxiety scores than the controls. The Short-Form 36 Health Survey scores were significantly lower in all eight dimensions compared with the reference group. The vitality (VT), physical functioning (PF), bodily pain (BP), general health (GH) perceptions, physical role (RP) functioning, emotional role (RE) functioning, social role (SF) functioning and mental health (MH) dimensions of the SF-36 scale were statistically poorer in the women with OCD. Scores in the FSFI domains desire, arousal, and lubrication were significantly lower in patients with OCD. Overall quality of life subscores were found to be significantly positively correlated with the arousal and lubrication domains. The SF-36 sub-scores, except physical functioning (PF), were found to be significantly positively correlated with the FSFI desire domain score of the women.

**Conclusions:** Problems with sexual functioning in patients with OCD should prompt physicians to routinely include sexual dysfunction when assessing a patient's quality of life. This study aims to highlight the impact of sexual dysfunctions on the quality of life in women with OCD.

**Keywords:** obsessive compulsive disorder, quality of life, sexual dysfunction

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[Abstract:0314] *Sexual and gender identity disorders*

### Is male sexual dysfunction associated with impulse control disorders?

[Fatih Kayhan<sup>1</sup>](#), [Cihan Toktas<sup>2</sup>](#)

<sup>1</sup>Department of Psychiatry, Mevlana University, Faculty of Medicine, Konya-Turkey

<sup>2</sup>Department of Urology, State Hospital of Beysehir, Konya-Turkey

e-mail address: [drkayhan@yahoo.com](mailto:drkayhan@yahoo.com)

**Objective:** We aimed to investigate the relationship between sexual dysfunction (SD) and mood, anxiety, and impulse control disorders (ICDs), as well as the effects of SD on quality of life.

**Methods:** One hundred fifty-seven patients diagnosed with SD (either erectile dysfunction [ED] or premature ejaculation [PE]) in a urology outpatient clinic were included in this study. The control group consisted of 60 individuals without SD. Mood and anxiety disorders were diagnosed with Structured Clinical Interviews for the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (SCID, DSM-IV). ICDs were diagnosed by psychiatric interview according to DSM-IV diagnostic criteria. The Beck Anxiety Inventory (BAI) and Beck Depression Inventory (BDI) were used to determine levels of anxiety and depression, respectively. The World Health Organization Quality

of Life-BREF (WHOQOL-BREF) was used to evaluate quality of life.

**Results:** Of the 157 patients included in this study, 32 (39.5%) had at least one mood or anxiety disorder or ICD. Any psychiatric disorders were more prevalent in patients with SD. Any ICDs were statistically significantly more frequently seen in the patient group compared to the control group, with 36 patients with SD (22.9%) being diagnosed with an ICD. Scores from the BDI and BAI were statistically higher in patients with SD than in healthy subjects. All domains of WHOQOL-BREF scores were poorer in patients with SD than in individuals without SD.

**Conclusion:** The relationship between SD and psychiatric disorders is considerably strong. In the current study, a robust relationship between SD and ICDs was found.

**Keywords:** depression, impulse control disorder, sexual dysfunction

**Bulletin of Clinical Psychopharmacology 2015;25(Suppl. 1):S186-S7**

### [Abstract:0334] *Sexual and gender identity disorders*

## Sexual dysfunction, mood, anxiety and personality disorders and quality of life in female patients with fibromyalgia

Fatih Kayhan<sup>1</sup>, Adem Kucuk<sup>2</sup>, Yilmaz Satan<sup>3</sup>, Erdem Ilgun<sup>4</sup>, Sevket Arslan<sup>5</sup>

<sup>1</sup>Department of Psychiatry, Mevlana University, Faculty of Medicine, Konya-Turkey

<sup>2</sup>Department of Rheumatology, Necmettin Erbakan University, Meram Faculty of Medicine, Konya-Turkey

<sup>3</sup>Department of Psychiatry, Konya Numune Hospital, Konya-Turkey

<sup>4</sup>Department of Physical Therapy and Rehabilitation, Mevlana University, Faculty of Medicine, Konya-Turkey

<sup>5</sup>Department of Internal Medicine, Necmettin Erbakan University, Meram Faculty of Medicine, Konya-Turkey

e-mail address: drkayhan@yahoo.com

**Objective:** The study aimed to investigate sexual dysfunction (SD), mood and anxiety disorders and the relationship between one another and their effects on quality of life in patients with fibromyalgia (FM).

**Methods:** The study sample was composed of 96 female patients with FM and 94 female healthy control subjects. Mood and anxiety disorders were ascertained by means of the Structured Clinical Interview for the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition/Clinical Version. Personality disorders were diagnosed with the Structured Clinical Interview for DSM, Revised Third Edition Personality Disorders SD was diagnosed with Diagnostic Statistical Manual of Mental Disorders, Fourth Edition.

**Results:** Of the 96 patients, 46 (47.9%) had at least one sexual dysfunction. The most common sexual dysfunctions were lack of sexual desire (n=36, 37.5%) and arousal disorder (n=10, 10.4%). Of the 96 patients, 45 (46.9%) had at least one mood or anxiety disorder and 13 (13.5%) has at least one personality disorder. Particularly, lack of sexual desire, orgasm disorder, arousal disorder, major depression, generalized anxiety disorder and histrionic personality disorder were more prevalent in the FM group compared to the control group. The presence of sexual dysfunction was associated with pain intensity.

**Conclusion:** Sexual dysfunction, mood and anxiety disorders are more frequently seen in patients with FM. The impact of pain intensity was greater than psychiatric disorders on sexual dysfunction

**Keywords:** depression, fibromyalgia, sexual dysfunction

**Bulletin of Clinical Psychopharmacology 2015;25(Suppl. 1):S187**

**[Abstract:0351] Sexual and gender identity disorders****Sexual dysfunction and quality of life in women with panic disorder**Sema Inanir<sup>1</sup>, Leman Inanc<sup>1</sup>, Ali Irfan Gul<sup>2</sup>, Bulent Cakmak<sup>3</sup>, Ahmet Inanir<sup>3</sup><sup>1</sup>Tokat Mental Health and Diseases Hospital, Tokat-Turkey<sup>2</sup>Bozok University, Yozgat-Turkey<sup>3</sup>Gaziosmanpasa University, Tokat-Turkey

e-mail address: sinanir@gmail.com

**Objective:** The present study aimed to compare women with panic disorder and a healthy group in terms of anxiety, depression, health-related quality of life and sexual function. The second purpose is to explore the relationship between sexual dysfunction and quality of life in a panic disorder group.

**Methods:** In this cross-sectional study, we enrolled 121 women (58 patients, 83 controls). Participants were asked to complete questionnaires measuring anxiety, depression, quality of life and sexual functioning. Patients and healthy controls were evaluated by Beck Anxiety and Beck Depression Scale, Female Sexual Function Index (FSFI), the Turkish version of Short Form Health Survey (SF-36) and demographics questionnaire.

**Results:** The panic disorder group had significantly higher depression and anxiety scores than the controls.

The Short-Form 36 Health Survey scores were significantly lower in all eight dimensions compared with the reference group. The vitality (VT), physical functioning (PF), bodily pain (BP), general health (GH) perceptions, physical role (RP) functioning, emotional role (RE) functioning, social role (SF) functioning and mental health (MH) dimensions of the SF-36 scale were statistically poorer in the women with panic disorder. The FSFI desire, arousal, lubrication domain scores were significantly lower in patients with panic disorder. Overall quality of life subscores were found to be significantly positively correlated with the FSFI desire, arousal, and lubrication domains.

**Conclusion:** The problems with sexual functioning in patients with panic disorder should prompt physicians to routinely include sexual dysfunction when assessing patients' quality of life.

This study aims to highlight the impact of sexual dysfunctions on the quality of life in women with panic disorder.

**Keywords:** panic disorder, sexual dysfunction, quality of life

**Bulletin of Clinical Psychopharmacology 2015;25(Suppl. 1):S188**

**[Abstract:0381] Sexual and gender identity disorders****Evaluation of relationship between erectile dysfunction and neutrophil-lymphocyte ratio**Yasemin Kaya<sup>1</sup>, Erdal Benli<sup>2</sup>, Ali Aslan<sup>3</sup>, Esra Yancar Demir<sup>4</sup>, Abdullah Cirakoglu<sup>2</sup>, Mustafa Kerem Calgin<sup>5</sup><sup>1</sup>Department of Internal Medicine, Ordu University, Faculty of Medicine, Ordu-Turkey<sup>2</sup>Department of Urology, Ordu University, Faculty of Medicine, Ordu-Turkey<sup>3</sup>Department of Physiology, Ordu University, Faculty of Medicine, Ordu-Turkey<sup>4</sup>Department of Psychiatry, Ordu University, Faculty of Medicine, Ordu-Turkey<sup>5</sup>Department of Microbiology, Ordu University, Faculty of Medicine, Ordu-Turkey

e-mail address: edyancar@yahoo.com

**Objective:** The literature provides a significant amount of information about the relationship between inflammatory markers and many diseases, as well as their role in disease etiopathogenesis. In this study, we aimed to determine the relationship between erectile dysfunction and neutrophil-lymphocyte ratio (NLR), which is a simple and nonspecific inflammatory marker

**Methods:** Ninety patients with erectile dysfunction and ninety-four healthy subjects were included in this study from among applicants to our internal medicine and urology clinic. As diagnosis criteria we used the first 5 questions of International Index for Erectile Function. The duration of erectile dysfunction was asked and recorded. Height, weight and waist circumference of patients were measured. We performed total blood count, sedimentation, C-reactive protein and blood chemistry.

**Results:** Mean age of the patients with erectile dysfunction was 61 (53-66.25) and mean age of control group was 59.5 (52-68) (p=0.69). The rate of cigarette use in the patients group was 20%, in the control group 15.2% (p=0.41). The duration of erectile dysfunction in patients group was 37.95 (39.10) and in control group 13.89 (34.099) (p<0.001). The neutrophil-lymphocyte ratio in patient group was

2.38 (1.67-3.90) and the in control group 1,038(0,507-1,92) ( $p<0.001$ ). Duration of erectile dysfunction 7.5 month predicted ED with 78.8% sensitivity and 63.1% specificity (AUC:  $<0.001$ , 95% CI 1.030 (1.010-1.050),  $p=0.003$ ). Neutrophil-lymphocyte ratio 1.574 predicted ED with 81.8% sensitivity and 67% specificity (AUC:  $<0.001$ , 95% CI 1.994 (1.139-3.490),  $p=0.016$ ).

**Conclusion:** It was found that the neutrophil-lymphocyte ratio in the patient group was higher than in the control group. Inflammation may play a role in erectile dysfunction etiopathogenesis. Also, a neutrophil-lymphocyte ratio of 1.574 predicted ED and may be helpful in diagnosing erectile dysfunction.

**Keywords:** erectile dysfunction, neutrophil-lymphocyte ratio, inflammation

**Bulletin of Clinical Psychopharmacology 2015;25(Suppl. 1):S188-S9**

## SLEEP DISORDERS

[Abstract:0181] *Sleep disorders*

### Sleep disturbances in patients with Sjogren syndrome

Murat Semiz<sup>1</sup>, Adem Kucuk<sup>2</sup>, Ali Ugur Uslu<sup>3</sup>, Ayse Balkarli<sup>4</sup>, Muhammet Sahin<sup>5</sup>, Beraç Can<sup>6</sup>, Yalcin Solak<sup>7</sup>, Recep Tunc<sup>2</sup>

<sup>1</sup>Department of Psychiatry, Gulhane Military Medical Faculty, Ankara-Turkey

<sup>2</sup>Department of Rheumatology, Necmettin Erbakan University, Meram Faculty of Medicine, Konya-Turkey

<sup>3</sup>Department of Internal Medicine, Eskisehir Military Hospital, Eskisehir-Turkey

<sup>4</sup>Department of Rheumatology, Pamukkale University, Faculty of Medicine, Denizli-Turkey

<sup>5</sup>Department of Physical Medicine and Rehabilitation, Necmettin Erbakan University, Meram Faculty of Medicine, Konya-Turkey

<sup>6</sup>Department of Internal Medicine, Pamukkale University, Faculty of Medicine Denizli-Turkey

<sup>7</sup>Department of Nephrology, Necmettin Erbakan University, Meram Faculty of Medicine, Konya-Turkey

e-mail address: drmuratsemiz@hotmail.com

**Objective:** Primary Sjogren Syndrome (pSS) is a disorder characterized by dryness due to dysfunction of exocrine glands and additional non-exocrine manifestations from various organ systems. The most common non-exocrine manifestation is a fatigue defined as a general lack of energy not relieved by increased sleep. Excessive daytime sleepiness is defined as the propensity to fall asleep at a time when the individual would usually be awake and alert. One of the major causes for excessive day time sleepiness is periodic limb movement disorder association with restless legs syndrome (RLS). The aim of the present study was to evaluate sleep disturbances in patients with pSS.

**Method:** Seventy-seven voluntary patients (70 female, 7 male) admitted to the rheumatology clinic were included in the study. The control group consisted of eighty healthy (70 female, 10 male) individuals.

The study sample was asked to complete a socio-demographic form (age, gender, marital status, income level and educational status), Pittsburgh Sleep Quality Index (PSQI), Epworth Sleepiness Scale (ESS), and the International RLS study group (IRLSSG) rating scale. The IRLSSG rating scale meets performance criteria for a brief, patient-completed instrument that can be used to assess RLS severity for purposes of clinical assessment, research, or therapeutic trials.

**Results:** The mean scores of the mental health, general health, vitality, physical function, physical role function, and emotional role function parameters of the patients were statistically significantly lower than those of healthy volunteers. On the ESS scale, the average score was found to be  $7.9 \pm 2.8$  in the patient group and  $4.5 \pm 2.1$  in the control group. The average IRLSSG rating scale score was  $13.4 \pm 7.6$  in the patient group and  $5.4 \pm 5.2$  in the control group. The total PSQI score was  $7.8 \pm 3.5$  in the patient group and  $4.11 \pm 1.64$  in the control group. There was a statistically significant difference in terms of ESS, IRLSSG rating scale and sleep quality scores. Patients with urinary incontinence ( $n=26$ ) had significantly higher PSQI and sf-36 scores than did patients without urinary incontinence ( $n=51$ ).

**Conclusion:** Prevalence of sleep disturbances appears to be increased in pSS and may be a useful therapeutic target to improve the quality of sleep in these patients. The effects of pSS treatment on sleep quality were not assessed due to the cross-sectional nature of the study. Further studies, where pSS patients should be followed up for an extended period of time and evaluated by polysomnography, are required.

**Keywords:** Sjogren syndrome, restless legs syndrome, sleep quality

**Bulletin of Clinical Psychopharmacology 2015;25(Suppl. 1):S190**



**[Abstract:0307] Sleep disorders****Dream anxiety levels in patients with obstructive sleep apnea syndrome**Fagan Zakirov<sup>1</sup>, Ersan Atahan<sup>2</sup>, Erhan Yuksek<sup>1</sup>, Ilknur Turkuresin<sup>2</sup>, Gulser Aydin<sup>1</sup>, Ekim Nur Dalcik<sup>1</sup>, Murat Emul<sup>1</sup><sup>1</sup>Department of Psychiatry, Istanbul University, Cerrahpasa Faculty of Medicine, Istanbul-Turkey<sup>2</sup>Department of Chest Disease, Istanbul University, Cerrahpasa Faculty of Medicine, Istanbul- Turkey

e-mail address: faganzakirov@gmail.com

**Objective:** Obstruction of the upper airway may cause intermittent oxygen desaturation in the blood leading to interruption of sleep which may manifest in repeated episodes of Obstructive Sleep Apnea Hypopnea Syndrome (OSAHS). OSAHS patients have dreams including negative emotions. MacFarlane et al. have shown that a high proportion (66%) of patients with OSAHS have reported nightmares "sometimes". Thus we aimed to study the relation between dream anxiety level and patients' OSAHS severity and a correlation between dream anxiety level and depression and/or anxiety levels in patients with OSAHS that might be present.

**Method:** Ninety-three patients with OSAHS were recruited in the department of Chest Disease at the Medical School of Cerrahpasa from January to December in 2013. We used the Van Dream Anxiety Scale, Hospital anxiety and depression scale, Epworth Sleepiness Scale and then had polysomnography performed. One-way ANOVA test was used within subgroups of patients with OSAHS and then Bonferroni correction was made; a p value <0.0125 was accepted as significant.

**Results:** The mean age was  $49.49 \pm 13.60$  years and there was no significant difference according to age between groups: simple snoring ( $48.29 \pm 17.06$ ), mild OSAHS ( $54.57 \pm 10.52$ ), moderate OSAHS ( $50.24 \pm 13.98$ ), severe OSAHS ( $47.70 \pm 11.02$ ),  $F=0.929$  and  $p=0.430$ . The mean Hospital Anxiety and Depression (HAD) score of patients was  $15.93 \pm 7.09$  points and was significantly different between groups ( $p=0.022$ ). The mean Van Dream Anxiety Scale score was  $6.50 \pm 8.17$  points in patients and no difference was detected according to VDAS between groups ( $\chi^2=2.736$  and  $p=0.434$ ). The mean Epworth's score was  $7.62 \pm 4.8$  and was significantly different between groups ( $\chi^2=13.47$  and  $p=0.004$ ). Patients from the severe OSAHS group have a significantly worse sleep quality than those in the simple snoring group ( $p=0.001$ ). We found a positive correlation between HADS and VDAS score ( $r=326$  and  $p=0.002$ ). There was a negative correlation between basal O<sub>2</sub> saturation of patients and VDAS score ( $r=218$  and  $p=0.037$ ).

**Conclusion:** This study is the first that investigated patients' OSAHS severity in association with VDAS for dream anxiety. In the present study, we have found negative correlations between dream anxiety level according to VDAS and duration and density of REM sleep, and baseline O<sub>2</sub> level according to polysomnography. It is known that dream recall is more frequent in people who have higher proportions of REM. Thus, we considered that although patients with OSAHS accepted to have frequent nightmares, anxiety in patients with OSAHS might also contribute to these frequent nightmares. We think that the treatment with CPAP might also decrease anxiety levels in patients with severe OSAHS.

**Keywords:** dream anxiety, nightmare, sleep disorder

**Bulletin of Clinical Psychopharmacology 2015;25(Suppl. 1):S191**

**[Abstract:0595] Sleep disorders****Evaluation of sociodemographic and clinical features of patients who applied to the sleep laboratory: a retrospective study**

Esra Aydin Sunbul, Hayal Ergin Toktas, Sumeyye Calli, Huseyin Gulec

Department of Sleep Laboratory, Erenkoy Mental Health Training and Research Hospital, Istanbul-Turkey

e-mail address: dresraaydin@yahoo.com

**Objective:** The aim of this study is to investigate the sociodemographic features and complaints of patients who apply to the sleep laboratory and to compare the physician's preliminary diagnosis and the results of polysomnography (PSG) records of these patients.

**Methods:** One hundred and seventy-seven patients who applied to Erenkoy Mental Health and Neurology Training and Research Hospital sleep laboratory department were included in the study. All of the patients' age, gender, comorbid chronic diseases, complaints, preliminary diagnoses and PSG diagnosis were evaluated retrospectively.

**Results:** The study population consisted of 177 patients who applied to the sleep laboratory. The average age of patients was 47.7 years. 52 patients were female and 125 patients were male. Total sleep time of the study population was  $369.7 \pm 63.2$  minutes. Mean apnea

hypopnea (AHI) index was  $41.7 \pm 72.5$ . Complaints of patients were snoring (86.4%), stopped breath during sleep (74%), insomnia (57.1%) and abnormal behaviors during sleep (34.5%). Sleep disorders in patients were accompanied by chronic diseases including hypertension (29.4%), diabetes (14.1%), hyperlipidemia (14.7%) and also depressive disorder (11.9%) and anxiety disorder (1.7%). The majority of patients' initial diagnosis was obstructive sleep apnea syndrome (122 patients). According to PSG results, 75 patients were diagnosed with obstructive sleep apnea syndrome.

**Conclusion:** A good clinical history and physical examination with the correct interpretation of PSG for the differential diagnosis can be made carefully. Accurate and timely diagnoses are important for appropriate treatment of patients who apply to the sleep laboratory. Therefore, the clinician should give more attention to evaluating these patients.

**Keywords:** sleep disorders, snoring, polysomnography

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## SOCIAL AND CULTURAL PSYCHIATRY

[Abstract:0186] *Social and cultural psychiatry*

### Temperament and character in living kidney donors

Murat Mutlu<sup>1</sup>, Mehmet Fatih Ustundag<sup>2</sup>, Halil Ozcan<sup>2</sup>

<sup>1</sup>Department of Psychiatry, Sinop Ataturk State Hospital, Sinop-Turkey

<sup>2</sup>Department of Psychiatry, Ataturk University, Faculty of Medicine, Erzurum-Turkey

e-mail address: halilozcan23@yahoo.com

**Objective:** Kidney transplantation is the best exclusive treatment of renal failure. The number of kidney transplantations from cadavers are inadequate, therefore living organ donors are seen as the most important source for transplantation. At present, studies on the psychiatric conditions and personality features of donors are inadequate. In this research, we aimed to explore personality features of living kidney donors.

**Methods:** Thirty-three donors involved in the transplantation process as kidney donors in Ataturk University's Organ Transplantation Unit participated in the study. Sociodemographic data of the donors was recorded and the Temperament and Character Inventory (TCI) was administered. The results gathered were compared with measurements which have been standardized for the Turkish community (2). The main subscales of the Temperament and Character Inventory are novelty seeking, harm avoidance, reward dependence, persistence, self-directedness, cooperativeness, and self-transcendence. Except for persistence, all main subscales have their own subscales. For the statistical analysis, independent sample t-tests and chi-square analysis were used.  $P < 0.05$  was accepted as statistical significance level.

**Results:** Twenty-one female and 12 male kidney donors completed the study. 90% of the donors are married, 72.7% have a low income level. In the temperament dimension, donors' novelty seeking score is found to be significantly lower than the mean Turkish community scores. Exploratory excitability and extravagance scores were found to be lower than the mean Turkish community scores when the novelty seeking subscales were examined. In the temperament dimension, shyness and attachment subscale scores of the donors were lower than the Turkish community scores. Openness to warm communication and compassion subscale scores of the donors were higher than the Turkish community scores. In the character dimension, self-directedness and enlightened second nature scores were lower in donors. Self-transcendence and transpersonal identification scores of the donors were higher than the Turkish community scores.

**Conclusion:** In our study, the number of female donors were higher than males. This might be because of the compassionate and dedicating features of female and maternal nature. Some of the results like high score of a self-transcendence, transpersonal identification and compassion scores and lower score of attachment subscales might be expected from donors, because being a donor is difficult to accept and most of the living donors were close relatives or loved ones. The lower self-directedness scale scores detected in donors were a surprising finding, because according to Cloninger's hypothesis, the self-directedness group is identified as having irresponsible, incriminating characteristics. We wonder how they can accept being a kidney donor? We think that more studies are needed on this topic.

**Keywords:** character, donor, temperament

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[Abstract:0570] *Social and cultural psychiatry*

### Assessment of hope level and assessment of factors influencing hope levels in Turkey

Hatice Ozkoc<sup>1</sup>, Nilfer Sahin<sup>2</sup>, Ercan Baldemir<sup>3</sup>

<sup>1</sup>Department of Statistics, Mugla Sitki Kocman University, Faculty of Science, Mugla-Turkey

<sup>2</sup>Department of Child and Adolescent Psychiatry, Mugla Sitki Kocman University, Faculty of Medicine, Mugla-Turkey

<sup>3</sup>Department of Statistics, Mugla Sitki Kocman University, Faculty of Medicine, Mugla-Turkey

e-mail address: nilfersahin@hotmail.com

**Objective:** Hope is defined as having positive expectations about the future, making individuals feel that he/she can overcome negative experiences that may be encountered in the future and affecting mental health positively. In previous studies, it has been suggested that hopelessness levels vary depending on age, gender and culture.

In our country, there is a scarcity of studies evaluating hope levels in the general population. For the first time in 2003, the Life Satisfaction Survey measuring objective happiness perception and satisfaction in health, social security, formal education, professional life, personal

confidence, justice, transportation services and personal development was performed by the Turkish Statistics Institute (TurkStat) and data have been reported annually since then. In the present study, it was aimed to analyze and discuss hope level and factors influencing hope levels and changes over time in data from the TurkStat Life Satisfaction Survey collected between 2010 and 2013 in the light of the literature.

**Methods:** This study was carried out using the raw data of the Life Satisfaction Surveys conducted in 2010 and 2013 by TurkStat. Overall, 7027 people located in the 2010 survey and 55833 people located in 2013 study were included in the study. Two different models (ordered logit and artificial neural network models) were used, and the obtained results were compared.

**Results:** When factors influencing the hope level in individuals participating in the Life Satisfaction Survey were assessed according to gender, it was seen that men were more hopeful than women in both 2010 and 2013. When effects of age on hope level were assessed, it was found that there was an increase in the hope level with advancing age in 2010, but no significant effect was found on hope level in 2013. No significant effect of marital status was detected in 2010 while it was seen that married individuals were less hopeful in the 2013 survey. It was seen that employment status and health issues had no significant effect on hope level in 2010, while employees and those with health issues had lower hope levels in 2013. It was found that domestic violence had a significant effect on hope level in both 2010 and 2013. When effects of individuals' happiness level on the hope level were assessed, it was seen that the level of happiness had no significant effect on the hope level. When level satisfaction from income status was assessed, it was seen that satisfaction from income status had a significant effect on hope level in both surveys.

**Conclusion:** It was determined that the male gender, presence of domestic violence, state of happiness, satisfaction with income affected the hopelessness levels in both 2010 and 2013. There was an increase in hope level with advancing age in 2010, but there was no such association in 2013. The hopelessness level was higher in married people, employees and those with health issues in 2013 but not in 2010. In this study, it was found that the factors affecting the level of hope varied over the years.

**Keywords:** hope, influencing factors, Turkish statistics institute

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### [Abstract:0701] *Social and cultural psychiatry*

## Frequency of outpatient follow-up application in schizophrenia: community mental health center research

Dilek Sarikaya Varlik<sup>1</sup>, Ugras Erman Uzun<sup>2</sup>, Oya Guclu<sup>2</sup>, Cenk Varlik<sup>2</sup>, Sermin Gul Kahya<sup>3</sup>, Murat Erkiran<sup>2</sup>

<sup>1</sup>Department of Psychiatry, Kackar State Hospital, Rize-Turkey

<sup>2</sup>Bakirkoy Training and Research Hospital for Psychiatry, Neurology and Neurosurgery, Istanbul-Turkey

<sup>3</sup>Department of Psychiatry, Zile State Hospital, Tokat-Turkey

e-mail address: dilek\_sarkaya@yahoo.com

**Objective:** In this study, we aimed to identify factors that affect the frequency of application to community mental health center in patients with schizophrenia.

**Methods:** Sixty-four patients who had been diagnosed with schizophrenia by DSM-IV-TR diagnostic criteria and followed up at least 6 months by one of three community mental health centers depending on Bakirkoy Psychiatric and Neurological Diseases Training and Research Hospital were enrolled in our study. 41 patients were frequently callers, 23 patients were coming in rarely. Sociodemographic data form, Positive and Negative Syndrome Scale, Calgary Depression Scale for Schizophrenia, Global Assessment Scale, Social Functioning Scale were completed by clinicians in face-to-face patient interviews.

**Results:** No significant difference was found in the socio-demographic characteristics between the two groups. The number of hospitalizations was significantly higher in the rare applicant group. In addition, the number of patients who have been refused treatment, have been treated at home and with depressive symptoms was significantly higher in the rare applicant group than in the other group. On the other hand, attending rates at the psychoeducation group meetings and social skills training were significantly higher in the frequent applicant group. Global assessment scale scores were significantly higher in frequently calling patients.

**Conclusion:** The frequency of visits to the community mental health center is an important determinant of the clinical outcome of patients. We found that the global functioning levels, depressive symptoms, number of hospitalizations, attending to the psychoeducation group meetings and social skills lessons are determinative for application rates.

**Keywords:** community mental health center, schizophrenia, social psychiatry

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**[Abstract:0751] Social and cultural psychiatry****Why do surgeons get angry, behave unkind and/or throw surgical tools around? frequency of violence during surgery training**

Ahmet Hakki Asik<sup>1</sup>, Hasan Mayda<sup>2</sup>, Erman Bagcioglu<sup>3</sup>, Okan Solak<sup>4</sup>

<sup>1</sup>Afyon State Hospital, Afyonkarahisar-Turkey

<sup>2</sup>Mardin Kiziltepe State Hospital, Mardin-Turkey

<sup>3</sup>Department of Psychiatry, Afyon Kocatepe University, Faculty of Medicine, Afyonkarahisar-Turkey

<sup>4</sup>Department of Thoracic Surgery, Afyon Kocatepe University, Faculty of Medicine, Afyonkarahisar-Turkey

e-mail address: ahmethakki@hotmail.com

**Objective:** We planned a study on doctors working in surgical wards, considering that doctors working in the department of surgery are more frequently exposed to violence and also more frequently act violently. We aimed to investigate the frequency of violent behavior among surgeons and the dynamics underlying this behavior.

**Methods:** A total of 100 medical doctors working in surgical departments in medical schools (MS) and training and research hospitals (TRH) in 4 cities volunteering to participate in this study were included. The participants were administered a questionnaire on demographic data, another questionnaire questioning the causes and state trait anger scale (STAS).

**Results:** The distribution of institutions of the volunteers was as follows: 57% TRH, 43% medical school hospitals. The academic titles of these medical doctors were: 6% professor, 13% associate professor, 5% assistant professor, 34% specialist, 42% resident. The distribution of institutions where the participants had their surgical training were: 56% medical schools and 44% TRHs. 50% of the participants reported violent behaviors of their own in 30% of all surgical procedures. During the period when the questionnaires were administered, 13% of all participants reported nervous, tense and / or unkind behaviors in the past week. 20% of all participating surgeons reported behaving in such a manner at all times. The frequency of angry and unkind behaviors reached 56% in major surgical interventions. 14% of surgeons yelled at others and threw surgical tools around when they got angry.

**Conclusion:** We concluded that doctors are exposed to violence and show violent behavior towards their colleagues. There is a need for new educational strategies in surgical education and medical ethics in order to decrease negative attitudes and violent behaviors towards doctors in surgical branches.

**Keywords:** surgeon, department of surgery, violence during training

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## SOMATIC TREATMENTS

### [Abstract:0154] *Somatic treatments*

## Comparison of clinical characteristics of patients receiving electroconvulsive therapy as inpatients and outpatients

[Suleyman Demir](#), Mahmut Bulut, Abdullah Atli, Mehmet Cemal Kaya, Mehmet Gunes, Aslihan Okan Ibiloglu, Songul Cati, Aytekin Sir

Department of Psychiatry, Dicle University, Diyarbakir-Turkey  
e-mail address: drsuleymandemir@hotmail.com

**Objective:** Electroconvulsive therapy (ECT) is one of the efficient and reliable somatic treatments used in severe mental disorders. In our country ECT procedures are generally performed on hospitalized patients. The use of ECT in acute outpatients gradually increases as an acute and maintenance treatment. Studies that compare acute outpatient ECT and ECT applied after hospitalization are limited. The present study reviews clinical characteristics of acute outpatient ECT and inpatient ECT comprehensively and retrospectively.

**Methods:** Patients (n=904) who were admitted to the Psychiatry Clinic of Dicle University, Faculty of Medicine between 2011 and 2014 and received ECT (n=138) as well as outpatients who had ECT (N=138) in acute attacks were included into the study. The files of these patients were reviewed retrospectively.

**Results:** ECT application ratio in patients admitted into our clinic was found 15.3%. ECT was mostly applied to patients with depression. There was no difference detected between age, number of ECT sessions applied, diagnosis and gender of admitted patients and outpatients ( $p>0.05$ ).

**Conclusion:** In our study, clinical characteristics of patients who received ECT after admission or as outpatients were detected to be similar. We believe that a cost-efficient treatment method may be presented to the patients by including acute outpatient ECT more in the treatment plan of the physicians.

**Keywords:** electroconvulsive therapy, inpatient, outpatient

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### [Abstract:0222] *Somatic treatments*

## Association between family functioning and self-esteem in acne patients

[Sema Inanir<sup>1</sup>](#), [Leman Inanc<sup>1</sup>](#), [Melahat Tali<sup>2</sup>](#)

<sup>1</sup>Department of Psychiatry, Tokat Mental Health and Diseases Hospital, Tokat-Turkey

<sup>2</sup>Department of Psychiatry, Gaziosmanpasa University, Tokat-Turkey  
e-mail address: sinanir@gmail.com

**Objective:** Acne is a disease that affects people of all ages both physically and psychologically. Psychological problems related to acne include a decrease in self-esteem, impaired self-image, problematic family relations, depression and anxiety symptoms. The association between acne and psychiatric processes is bidirectional. Psychological distresses can exacerbate acne, and psychiatric disorders can develop secondary to acne vulgaris. The aim of this study is to examine the association between family functioning and self-esteem in acne patients. We also want to compare acne and a healthy group in terms of anxiety, depression, family functioning and self-esteem.

**Methods:** In this cross-sectional study, 146 patients with acne vulgaris and 95 persons without acne were evaluated by the Beck Anxiety and Beck Depression Scale, McMaster Family Assessment Device (FAD), and Rosenberg Self-Esteem Scale.

**Results:** In concordance with some previous studies, the acne and control groups showed no significant differences in the Beck Anxiety and Beck Depression Scale scores. There were no significant differences between the acne and control groups in terms of self-esteem or family functioning either. Concerning family functioning, general functioning, communication, affective responsiveness, problem solving, and role assignments were found to be significantly associated with the acne patients' self-esteem. There is a high association between communication, role assignments, and affective responsiveness subscales of the Family Assessment Device and Rosenberg Self-Esteem Scale scores in the acne group.

**Conclusion:** These consequences indicate that the psychiatric effects of acne can be associated with healthy family relations, support and response of family and maybe by baseline self-esteem. Effective communication skills, affective responsiveness and role assignments in

the family seem to contribute to the sense of positive self-esteem in this group. These findings illustrate the importance of strong family relations in dealing with the acne problem.

**Keywords:** acne vulgaris, family functioning, self-esteem

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**[Abstract:0276] Somatic treatments**

## The effect of electroconvulsive therapy on neutrophil/lymphocyte ratio

[Fatih Canan](#), [Nehir Kurklu](#), [Omer Gecici](#), [Murat Kuloglu](#)

Department of Psychiatry, Akdeniz University, Faculty of Medicine, Antalya-Turkey

e-mail address: fatihcanan@gmail.com

**Objectives:** Inflammatory and immune mechanisms are reported to play important roles in the pathophysiology of psychiatric disorders. Electroconvulsive therapy (ECT) is regarded as an effective treatment of not only depression, but also schizophrenia and mania, especially when there is no response to pharmacological interventions. Despite the common use of ECT, its mechanism of action is mostly unknown. Few studies examined the effect of ECT on inflammatory and immune functions. The neutrophil–lymphocyte ratio (NLR) is a simple and easily accessible indicator of the systemic inflammatory response. Our aim was to investigate whether a series of ECT sessions would change NLR in patients with major depression, bipolar disorder, or schizophrenia.

**Methods:** In this retrospective study, we analyzed 61 patients (unipolar depression, n=35; acute mania n=13; and schizophrenia, n=13). Complete blood count measurements were recorded before and after repeated ECT treatment.

**Results:** We found no difference in NLR between before ( $2.27 \pm 2.54$ ) and after ( $2.49 \pm 1.65$ ) repeated ECT treatments ( $p > 0.05$ ). Furthermore, a series of ECT did not change NLR in separate diagnostic groups.

**Conclusions:** To our knowledge, this is the first study to evaluate the impact of ECT on NLR. Our findings suggest that NLR levels are not altered after repeated ECT treatments.

**Keywords:** electroconvulsive therapy, immunology, neutrophil/lymphocyte ratio

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**[Abstract:0641] Somatic treatments**

## Alteration of retinal nerve fiber layer thickness after electroconvulsive therapy sessions

[Nazim Yildiz<sup>1</sup>](#), [Didar Ucar<sup>2</sup>](#), [Mustafa Hepokur<sup>2</sup>](#), [Elvin Guliyev<sup>1</sup>](#), [Murat Emul<sup>1</sup>](#)

<sup>1</sup>Department of Psychiatry, Istanbul University, Cerrahpasa Faculty of Medicine, Istanbul- Turkey

<sup>2</sup>Department of Ophthalmology, Istanbul University, Cerrahpasa Faculty of Medicine, Istanbul-Turkey

e-mail address: nazimyildiz@gmail.com

**Objective:** The human eye is an embryological protrusion of the brain, and the nerves and axons of the retinal nerve fiber layer (RNFL) are similar to those in the brain. The retina, which does not have a myelin sheath, is widely accepted as a good region for understanding neurodegeneration and proposed as a window to the brain. The retina is rich in dopamine and glutamate, which are generally supposed to be dysregulated in various psychiatric disorders. Ongoing neurotropic effects of ECT/ECS have been shown in hippocampus, prefrontal cortex, amygdala and hypothalamus in preclinical and clinical studies. Here, for the first time, we aimed to investigate ECT-induced neurotropic effects on the retinal nerve in patients who were indicated for ECT.

**Methods:** The data of 10 (F=8 and M=2) eligible patients who have indicated ECT were obtained. All patients were under drug treatment and no change was made during ECT sessions. Participants with conditions that may affect the retinal nerve fiber layers and with a presence of additional neurological conditions were excluded from the study. After dilation of pupils, all participants underwent RNFL thickness measurement by OCT (Stratus OCT, software version 4.0.1; Carl Zeiss Meditec Inc., Dublin, CA, USA).

**Results:** There were five patients with treatment-resistant depression, three with bipolar depression and two patients with schizophrenia in the sample. The mean age of the participants was  $50.30 \pm 11.73$  years. The mean ECT session was  $5.7 \pm 1.70$  and mean ECT duration was

160.50±50.06sec. The central macula thickness in the right eye was significantly increased after ECT (238.00±22.82 vs. 241.50±22.38, p=0.038) while there was a slight increase after ECT in the left RNFL (92.40±14.04 vs. 96.40±10.75, p=0.081).

**Conclusion:** In the literature, the findings of RNFL thickness and macular volume are inconsistent in patients with schizophrenia. The main confounders for these inconsistencies were inadequate resolution of the OCT method to find subtle changes in the early phase of schizophrenia and being under drug treatment. Interestingly, no study on RNFL was found in depression and/or bipolar depression and the influences of treatment. In rats, valproic acid exerted growth effects on the retinal nerve. This is the first prospective study that dealt with the outcome of ECT on RNFL. We have shown thickening of the right macula and a slight thickening of left RNFL. However, one must keep in mind when interpreting our conclusions that these findings were preliminary and the patients were under treatment.

**Keywords:** retinal nerve, electroconvulsive therapy, retinal nerve fiber layer

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## STIGMA AND MENTAL HEALTH

### [Abstract:0118] *Stigma and mental health*

#### Attitudes of general population and physicians towards alcohol addiction

[Hasan Mayda](#)<sup>1</sup>, [Etem Soyucok](#)<sup>2</sup>, [Ibrahim Guzel](#)<sup>3</sup>, [Yasemin Gorucu](#)<sup>4</sup>, [Erman Bagcioglu](#)<sup>4</sup>

<sup>1</sup>Department of Psychiatry, Mardin Kiziltepe State Hospital, Mardin-Turkey

<sup>2</sup>Department of Psychiatry, Dumlupinar University, Faculty of Medicine, Kutahya-Turkey

<sup>3</sup>Department of Psychiatry, Konya Aksehir State Hospital, Konya-Turkey

<sup>4</sup>Department of Psychiatry, Afyon Kocatepe University, Faculty of Medicine, Afyonkarahisar-Turkey

e-mail address: mayda4268@yahoo.com

**Objective:** To assess attitudes of general population and physicians towards alcohol addiction and to investigate whether medical education has a positive effect towards alcohol dependence or not.

**Method:** 99 medical doctors working at Afyonkarahisar University hospital, in public hospitals or health centers and 101 people selected from the community to represent the overall population participated in our study. Socio-demographic information of the participants were received, and then they were asked to complete the Social Distance Scale (SDS), the Characteristics Scale (CS), the Skill Assessment Scale (SAS), and the Dangerousness Scale (DS) anonymously, without the related stigma. Validity and reliability of this survey were reported in previous studies. DS consists of eight (8) items concerning Social Distance, measuring establishing contact with person affected by a given condition. CS consists of twenty (20) items. This evaluates the impact of personality and behavior attributed to a person affected by a given condition. SAS defines various not obviously expressed abilities related to a given condition. DS consists of four (4) items, investigating whether a mentally disabled patient is a threat to others.

**Results:** Comparing Doctors' and general population groups according to the stigma sub-scale, there was no statically significant difference between the two groups ( $p > 0.05$ ).

**Conclusions:** In this study, it was found that there was no significant difference between attitudes towards alcohol addicts between Doctors' and General population groups, 2 out of 3 people in both groups have negative attitudes towards alcohol addicts and medical education did not change these attitudes. Discrimination and stigma applied towards addicted people may obstruct the treatment of addiction. Especially, doctors play an important role for reducing stigmatization towards addicted people within the community. During medical education (especially rotation of psychiatry), application and development of new education strategies about addiction, in addition to basic courses, may help to reduce negative attitudes towards alcohol addicted people.

**Keywords:** alcohol addiction, stigma, medical education

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### [Abstract:0639] *Stigma and mental health*

#### Medical education and stigmatization impact on the formation of ideas about psychotropic medications

[Tatiana Galako](#), [Elmira Asanbaeva](#)

Department of Psychiatry, Kyrgyz State Medical Academy, Bishkek-Kyrgyz Republic

e-mail address: tatiana-galako@yandex.ru

**Objective:** In 2008, the European Commission adopted the European Pact for Mental Health and Well-being, where stigmatization control was promoted to one of the priority areas.

There are misconceptions about psychotropic medications. The negative take on psychotropic medications leads to their rejection and refusal to take these medications. It results in recrudescence, disease chronification, and early disability. The research purpose is to study the medical education and stigmatization impact on the formation of ideas about psychotropics to further a program of destigmatization.

**Methods:** The following respondents took part in the research: KSMA students that studied psychiatrics (100 people); KSMA students that have not studied psychiatrics (100 people) and general practitioners (150 people). The original questionnaire was used as the research tool. It was designed to study the image of psychiatrists, mentally sick patients and psychotropic medications.

**Results:** The results showed that 80.73% of KSMA students that had not studied psychiatrics reckon that psychotropic medications should be used "only in the case of severe mental disorders." About half of the respondents of this group believe that "psychotropic drugs do not increase the quality of life", "they are unessential" and, accordingly, the respondents would not take such medications. These answers demonstrate a negative attitude to the medicinal treatment of mental disorders. A more positive view of psychotropic medications is observed in students that studied psychiatrics. They described these medications as «nonnarcotic medications meant for treatment» - 83.49%, «they are essential» - 69.73% and «these can control mentality» - (79.0%). More than 65.0% of the respondents of this group believe that "they would take psychotropic medication prescribed by a doctor". However, along with the positive views there are still such views as: "these shouldn't be used by the doctors of other specialties", "the use of psychotropic medicines only for severe mental disorders" - (61%). This suggests that the study of psychotropic drugs at the undergraduate level significantly mitigates the negative attitudes; however, there remains an unconscious fear of their usage.

**Conclusion:** Considering the commitment of the WHO to expand capacity "in primary care for the treatment of common mental disorders" (Izmir, Turkey 2013), the study also included general practitioners. When analyzing their answers, we found that more than 30% of doctors do not use psychotropic medications in their practice at all or they use only the medicines of the previous generation. Over 40% of respondents answered that they "do not know" how to treat patients with such common disorders as depression and panic disorder. One of the main causes for this problem is the high degree of stigmatization towards psychotropic medications. The main conclusions are the following:

1. Education in mental health mitigates the negative view of psychotropic medications but does not turn it into a positive attitude.
2. Misconceptions about psychotropic medications form a generally negative attitude to mental health services, poor understanding of its functions and negative attitudes to treatment.
3. It is necessary to change educational programs in psychiatrics at the undergraduate and postgraduate levels, including programs for general practitioners.

**Keywords:** stigmatization, psychotropic medications, education in mental health

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## SUICIDE AND PSYCHIATRIC EMERGENCIES

[Abstract:0225] *Suicide and psychiatric emergencies*

### Investigation of related factors in suicide attempts in Diyarbakir

[Aslihan Okan Ibiloglu](#), [Suleyman Demir](#), [Abdullah Atli](#), [Mahmut Bulut](#), [Mehmet Cemal Kaya](#), [Aytekin Sir](#)

Department of Psychiatry, Dicle University, Faculty of Medicine, Diyarbakir-Turkey  
e-mail address: [aslihanokan@hotmail.com](mailto:aslihanokan@hotmail.com)

**Objective:** Attempted suicide was defined as any potentially self-injurious action with a non-fatal outcome for which there is evidence, either explicit or implicit, that the individual intended to kill him- or herself. According to Turkey's Statistical Yearbook (TurkStat), in the last years suicide rates have increased in Turkey. A variety of factors are associated with an increased risk for suicide attempt, including presence of psychiatric disorders, history of previous suicide attempts, and family history. It is obvious that no pathognomonic risk factors exist. Nevertheless, suicides are preventable. Based on this information, the objective of this article is to prioritize suicide prevention in the community of Turkey and to raise awareness of suicide as a public health issue among mental health professionals. Therefore, we aimed to investigate the relationship between single and multiple suicide attempts, hypothesizing that individuals with multiple suicide attempts would have higher rates of psychological disturbance and therefore demonstrate a greater number of suicide attempts when admitted to hospital.

**Methods:** We used a cross-sectional design and randomized cases who had come to the psychiatry department over 7 months. We evaluated 154 patients with at least one suicide attempt during lifetime. Out of 154 participants, 48 participants had comorbidity of exclusion criteria in follow-up. The study was approved by the Ethics Commission.

**Results:** The present study included 106 participants, 56 of whom were classified as multiple suicide attempt (MA) and 50 of whom were single suicide attempters (SA). In all, 53.8% (n=57) were female, and 46.2% (n=49) were male. There was a statistically significant positive relationship between the MA and the age of onset of suicide attempts ( $r=0.0614$ ,  $p=0.00$ ). This suggests that the increased number of suicide attempts results in a later age of onset of attempts. Mean age at onset of psychiatric disorders was  $25.26\pm 5.06$  years. The psychiatric diagnosis assigned by the clinicians was a significantly greater MDD in MA than in SA. On the other hand, the risk of MA was highest for participants with MDD. Next in order were GAD and PTSD.

**Conclusion:** The suicide rates tend to differ dramatically by age. Suicide rates increase with age; however, the absolute numbers are highest among those below the age of 45 years. A family history of attempted suicide likewise was a predictor of patients who would attempt suicide. In our study, MA were approximately twice as likely as SA to report suicide attempts among family members (67.3% versus 32.7%). This is the effect of suicide contagion. These findings are quite similar to other reports in the literature. Regarding risk factors for attempting suicide, compared to first-time attempters, repeat attempters had more previous psychiatric treatment. Consequently, these findings are referred to in the previous literature; hence, this study reflects the consistency of the results in the previously described variables.

**Keywords:** attempted suicide, family history, psychiatric disorders

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## TRANSCULTURAL PSYCHIATRY AND MENTAL HEALTH

[Abstract:0213] *Transcultural psychiatry and mental health*

### Evaluation of the effect of education on the stigmatization of mental illness for psychology students

Cansu Sertkaya, [Isil Gogcegoz Gul](#)

Department of Psychiatry, NP Istanbul Neuropsychiatry Hospital, Istanbul-Turkey

e-mail address: [lsilggul@gmail.com](mailto:lsilggul@gmail.com)

**Objective:** Stigmatization of mental disorders commonly affects help-seeking behavior and adherence to treatment negatively in many fields. Not only responses by the society, but also attitudes and behaviors of professionals working with mental diseases are very important for the wellbeing of mental patients. As some studies have shown, there is a positive relationship between education and stigmatization. However, psychology of education has not been examined in this respect. Therefore, the aim of this study is to examine the impact of stigmatization on mental illness psychology training.

**Methods:** The sample includes 88 students from the first year of a psychology program and 88 students that graduated from a psychology department in Istanbul, a total of 176 individuals. The Belief Scale Toward People with Mental Illness and Personnel Information Form was used in the study. The obtained data were analyzed using the SPSS 21.0 program, Kolmogorov - Smirnov distribution test, Pearson's Chi-Square test and Fisher's Exact test, Independent samples t test, One way ANOVA test and Bonferroni or LSD test were used.

**Results:** Stigmatization scores of first-year psychology students were higher than those found in graduates. There was no significant difference between attitudes about participants receive training in psychotherapy and the need for psychological support, economic status, place of residence. There was a significant difference between attitudes towards mental illness and gender, marital status, encountering with individuals that have mental illness.

**Conclusion:** As a result, psychology training on negative attitudes and beliefs towards mental disorders is efficacious, and increasing the education level decreases stigmatization.

**Keywords:** education, psychology, stigmatization

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## WOMEN'S MENTAL HEALTH

[Abstract:0137] *Women's mental health*

### Repetitive transcranial magnetic stimulation for the treatment of depression during pregnancy and postpartum period

[Ozer Ozmut](#), Hakan Balibey, Yakup Yilan, Ayhan Algul, Servet Ebrinc, Mesut Cetin, Recep Tutuncu, Alpay Ates, Cengiz Basoglu

Department of Psychiatry, GATA Haydarpasa Training Hospital, Istanbul-Turkey  
e-mail address: ozerozmut@gmail.com

**Objective:** Major depressive disorder is common during pregnancy and postpartum. These patients prefer non medicated treatment options. We present the outcomes of the treatment with repetitive transcranial magnetic stimulation (rTMS) for major depressive disorder during pregnancy and postpartum.

**Methods:** There were forty participants in our study, but twenty-five participants did not complete rTMS treatment sessions. Seven women suffered major depressive disorder during pregnancy and eight women major depressive disorder in the postpartum period. The rTMS intensity was set at 80 % of the motor threshold. A 20-Hz stimulation with a duration of 2s was delivered 20 times with 50s intervals. A session comprised 1,000 pulses. Treatment effect was assessed during treatment sessions 1, 7, and 15.

**Results:** Four out of fifteen (26%) subjects responded (decrease 50% in Hamilton Depression Rating Scale [HDRS-17] scores). Six out of fifteen (40%) subjects responded (decrease 50% in Hamilton Anxiety Rating Scale [HARS-14] scores). Eight out of fifteen (53%) subjects responded (under 13 points in Edinburgh depression scale [EDS-10] scores). There were no adverse effects in patient or infant during the pregnancy or in the post-natal period. Mild headache was the only common adverse event and was reported by 4 of 15 (26%) subjects. ( $p < 0.05$ , Wilcoxon)

**Conclusions:** Maintenance rTMS may be an effective and feasible treatment option for pregnant and postpartum women with major depressive disorder who do not opt to take antidepressant medication.

**Keywords:** depression, pregnant and postpartum women, repetitive transcranial magnetic stimulation (rTMS)

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[Abstract:0205] *Women's mental health*

### Childhood trauma, sexual function disorder and partner compliance in women who have married at an early age

[Mehmet Gunes](#)<sup>1</sup>, Hilal Selcuk<sup>2</sup>, Suleyman Demir<sup>1</sup>, Aslihan Okan Ibiloglu<sup>1</sup>, Mehmet Cemal Kaya<sup>1</sup>, Mahmut Bulut<sup>1</sup>, Abdullah Atli<sup>1</sup>, Aytekin Sir<sup>1</sup>

<sup>1</sup>Department of Psychiatry, Dicle University, Faculty of Medicine, Diyarbakir-Turkey

<sup>2</sup>Department of Psychiatry, State Hospital of Selahattin Eyyubi, Diyarbakir-Turkey

e-mail address: m63gunes@gmail.com

**Objective:** The purpose of the present study was to determine effects of early marriage on sexual function and partner compliance of the couples and to research the childhood trauma caused in women who were forced to marry or have married early.

**Methods:** Women who have been referred to the Obstetrics and Gynecology Department of the Faculty of Medicine, Dicle University, including 50 women who had married before the age of 18 and 50 women who had married after that age were included into our study during the first six month of their pregnancy. Sociodemographic data Form, the Childhood Trauma Questionnaire (CTQ), Arizona Sexual Experience Scale were applied to all participants.

**Results:** In the sociodemographic data form, it was detected that those who have married before the age of 18 tend to have a lower education level (3.02 years), generally live in rural areas, have seven or more siblings have married a relative. In early marriage, exposure to physical and sexual violence by the husband during the first years of marriage were found as 36% and 32%, respectively. In those who had married after the age of 18, these rates were reported as 4% and 5%, respectively. When Arizona Sexual Experience Scale scores were assessed, sexual desire ( $p=0.012$ ), sexual arousal ( $p=0.034$ ) and total scores ( $p=0.048$ ) were found higher in the early married group than those who have married after 18 years. In CTQ, emotional abuse ( $p=0.04$ ) subscale scores were significantly higher in the early married

group. CTQ scale scores were compared by cut-off score (7 points) and physical negligence ( $p=0.035$ ) was found significantly higher in early married women. The most common trauma type was determined as physical negligence (76%). For partner compliance, Emotional Expression Size ( $p=0.015$ ) and Peer-to-Peer Association Size ( $p=0.003$ ) subscales revealed significantly lower scores in the early married individuals than those married after the age of 18.

**Conclusion:** Women who get married under the age of 18 experience sexual dysfunction more often. Women who marry early experience more physical neglect and emotional abuse before marriage comparing to women who married later than age of 18. Women who married early have lower scores for Affectional Expression (degree to which respondent agrees with partner regarding emotional affection) and Dyadic Cohesion (degree to which respondent and partner participate in activities together) for dyadic adjustment and cannot get along with their spouses in terms of discussing maturely, doing activities together, exchange of ideas, type of loving.

**Keywords:** woman sexual function, childhood trauma, early age

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**[Abstract:0398] Women's mental health**

## Unintended pregnancies as a burden for women with psychiatric diagnoses

[Goksen Yuksel](#), [Furkan Bahadir Alptekin](#), [Ayca Ongel Atar](#), [Pinar Cetinay Aydin](#), [Nazan Aydin](#)

Bakirkoy Training and Research Hospital for Psychiatry, Neurology and Neurosurgery, Istanbul-Turkey  
e-mail address: drgoksenyuksel@gmail.com

**Objective:** Developments in psychiatric treatment have allowed women with psychiatric diagnoses to interact more in social life. As more women with psychiatric diagnosis are becoming mothers or planning to be, maintenance of psychotropic drugs, to have become a current topic. Half of the pregnancies occurred unplanned. But this may lead to abrupt drug discontinuation which is a risk factor for relapse into an ongoing psychiatric disease, leading pregnant women to reintroduce drugs during this period.

In this study, women with psychiatric diagnoses are assessed in terms of sociodemographic characteristics, possible perinatal complications with hospitalization rates among unintended pregnancies and vice versa.

**Methods:** A prospective study was conducted in Bakirkoy Prof. Dr. Mazhar Osman Mental and Neurological Diseases Research and Training Hospital. The total sample consisted of 100 pregnancy histories of inpatients admitted for psychosis, bipolar disorder or unipolar depression according to DSM-IV criteria. All women were assessed with their clinical and sociodemographic variables.

**Results:** The number of assessed pregnancies were 100. Thirteen of those pregnancies were reported to be unintended. Five of the mothers (38%) had schizophrenia, 8 were bipolar or unipolar; there was no statistical significance.

The two groups did not differ in terms of age, history of alcohol or substance use, education or economic circumstances ( $p>0.05$ ), and drug compliance ( $p>0.05$ ) also did not differ.

The duration of illness, total length of stay, number of pregnancies, total number of live births, ( $p>0.05$ ) did not differ. Also relation of psychiatric illness in terms of pregnancy, rate of psychotropic drug exposure in the beginning of pregnancy, gestational age as psychiatric symptoms reoccur, number of hospitalizations during pregnancy, duration of stay and necessity for ECT, number of suicidal attempts all showed no statistical difference ( $p>0.05$ ).

Interestingly, the mentioned variables also showed no statistical difference. Besides perinatal complications, congenital anomaly rate, gestational weight and age at birth did not differ between these two groups ( $p>0.05$ ). But in the postpartum period, mothers who got pregnant unintentionally needed psychotropic medication more than other group ( $p<0.005$ ), whereas the treatment duration was significantly longer ( $1.2\pm 1.7$  versus  $0.8\pm 2.4$  months) ( $p<0.004$ ). The rate of mothers capable of looking after their offspring by themselves was significantly lower ( $p<0.05$ ) and fewer women were living together with the father of the offspring before and after pregnancy ( $p<0.05$ ) in the unplanned pregnancy group.

**Conclusion:** Unintended pregnancies seem to be a significant burden for women in the psychiatric group, especially in bipolar and schizophrenic individuals. But, as cultural differences becomes apparent during the perinatal period, exigencies may differ from one cultural setting to another. In our study, statistical significance came to the fore during the postpartum period. This group needed more medication and prolonged hospitalization in the postpartum period. As women who got pregnant unintentionally show to need support for the offspring's care, this must be part of counseling before delivery. As the postpartum period seems to be vital for the unintended pregnancy group, a postpartum psychiatric consultation must be made.

**Keywords:** unintended pregnancy, burden, perinatal psychiatry

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## MISCELLANEOUS

[Abstract:0756] *Miscellaneous*

### The loss that does not cause growth can lead to psychopathology

[Duygu Tiryaki Sen<sup>1</sup>](#), [Orhan Murat Kocak<sup>1</sup>](#), [Sadiye Visal Buturak<sup>1</sup>](#), [Aydin Ciftci<sup>2</sup>](#), [Eyup Koc<sup>3</sup>](#), [Cigdem Ozdemir<sup>1</sup>](#)

<sup>1</sup>Department of Psychiatry, Kirikkale University, Faculty of Medicine, Kirikkale-Turkey

<sup>2</sup>Department of Internal Medicine, Kirikkale University, Faculty of Medicine, Kirikkale-Turkey

<sup>3</sup>Department of Nephrology, Kirikkale University, Faculty of Medicine, Kirikkale-Turkey

e-mail address: duygudr80@hotmail.com

**Objective:** In the broadest sense, grief is the process that contains emotional, intellectual, and behavioral responses to any loss. Almost all theorists agree that grief is a recovery process and if not proceeding properly, it can result in psychopathology. At this point, it can be argued that grieving is a required capacity and this capacity is inversely related to the development of psychopathology. One of the most important implications of this capacity is psychological growth. In the literature, there has been a number of studies about posttraumatic growth. Individual development and positive re-evaluation of life seen after the loss can be considered as an important reflection of the capacity of mourning viability. In this study, we hypothesized that growth after the loss is lower in subjects with psychopathology than in those without psychopathology

**Methods:** Forty-seven patients with chronic renal failure on dialysis and 49 patients with major depressive disorder who experienced a loss were included into the study. The control group consisted of 49 healthy volunteers. Posttraumatic growth and Problem Solving Inventory scales were applied to the participants involved to the study. The score on the posttraumatic growth scale as dependent variable, groups and gender as independent variables and age, education, time from the loss (monthly) and the problem solving inventory scale score as covariate were analyzed with analysis of covariance (ANCOVA).

**Results:** Statistically significant differences between the groups were found ( $p<0,001$ ). The lowest posttraumatic growth scale score was found in the major depressive disorder group. Statistically significant differences between the Major depressive disorder group and two other groups were identified. Significant difference in posttraumatic growth scale scores between dialysis and control groups was not detected. In addition, it has been observed that problem solving style may have an effect on the PTG score if the study group were enhanced.

**Conclusion:** This result suggests that the capacity of individual growth associated with mourning may be lower in individuals who have developed a psychopathology.

**Keywords:** posttraumatic growth, grief, mourning

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[Abstract:0780] *Miscellaneous*

### A comprehensive retrospective study regarding the efficacy of electroconvulsive therapy in an adolescent population

[Ali Karayagmurlu<sup>1</sup>](#), [Gokay Alpak<sup>2</sup>](#), [Emrah Yildiz<sup>2</sup>](#), [Hasan Bayar<sup>3</sup>](#), [Feridun Bulbul<sup>2</sup>](#), [Ahmet Unal<sup>2</sup>](#), [Osman Virit<sup>2</sup>](#), [Haluk A. Savas<sup>2</sup>](#)

<sup>1</sup>Department of Child and Adolescent Psychiatry, Ataturk University, Faculty of Medicine, Erzurum-Turkey

<sup>2</sup>Department of Psychiatry, Gaziantep University, Faculty of Medicine, Gaziantep-Turkey

<sup>3</sup>Department of Child and Adolescent Psychiatry, Gaziantep University, Faculty of Medicine, Gaziantep-Turkey

e-mail address: dralikarayagmurlu@gmail.com

**Objective:** Electroconvulsive therapy (ECT) is defined as an effective treatment method used in treatment-resistant patients with severe psychiatric disorders. However, few writers have been able to draw on any structured research into treatment efficacy in adolescent patient populations. The aim of this study was to examine effectiveness of ECT in an adolescent patient population.

**Methods:** We retrospectively analyzed the medical records of 717 patients who were administered ECT between 2012 and 2014. 36 of the patients were adolescent, and there were 30 complete patient records available. Adolescents aged between 15-18 years of age were included in the study. Patients who had not been evaluated with scales before and after ECT were excluded from the study. Data were

collected using Hamilton Depression Rating Scale (HAM-D), Young Mania Rating Scale (YMRS), Positive and Negative Syndrome Scale (PANSS), and Clinical Global Impression (CGI).

**Results:** There were 17 girls (56.6%) and 13 boys (43.3%) in the study group; their mean age was  $17.23 \pm 1.00$  years. 3 (10%) of the patients were administered maintenance ECT. According to DSM-IV, 14 patients (56.6%) met the diagnosis criteria for bipolar mood disorder, 10 (n=10 %33.3) for depression, 4 (13.3%) for schizophrenia and 2 (%6.6) for schizoaffective disorder. Indications for ECT were pharmacotherapy resistance (n=10, 33.3%), intense suicidal ideation (n=8, 26.7%), excitation (n=6 20%), catatonia (n=5 16.7%) and pregnancy (n=1 3.3%). All of the pretreatment scale scores were significantly higher than the posttreatment scale scores ( $p < 0.05$ ). After ECT, manic switch was seen in three patients. Mortality was not reported.

**Conclusion:** The results of this research indicate that ECT is an effective treatment in an adolescent patient population. Clinicians should try to keep in mind ECT as a treatment choice in adolescent patients with severe psychiatric disorders. More research using larger samples is needed to assess the efficacy of ECT in adolescent population.

**Keywords:** electroconvulsive therapy, adolescent, efficacy

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[Abstract:0816] *Miscellaneous*

## Evaluation of psychiatric consultations of medical inpatients in a research and training hospital

Ceren Meric Ozgunduz<sup>1</sup>, Mihriban Dalkiran Varkal<sup>1</sup>, Atila Tekin<sup>2</sup>, Ezgi Sagbilge Sayin<sup>1</sup>, Ipek Deniz<sup>1</sup>, Omer Akil Ozer<sup>1</sup>, Oguz Kayihan Karamustafalioglu<sup>1</sup>

<sup>1</sup>Sisli Hamidiye Etfal Training and Research Hospital, Istanbul-Turkey

<sup>2</sup>Cizre State Hospital, Sirnak-Turkey

e-mail address: [cerenmeric85@yahoo.com](mailto:cerenmeric85@yahoo.com)

**Objective:** The aim of this study was to evaluate patterns of psychiatric consultations and psychiatric morbidity among medical inpatients.

**Methods:** Evaluations of medical inpatients who were referred for psychiatric examination to Sisli Hamidiye Etfal Research and Training Hospital between 09/01/2014 and 11/30/2014 were recorded on a structured form and Hospital Anxiety and Depression Scale (HAD) was performed. Diagnostic evaluations were made by using SCID-I.

**Results:** Among 105 patients included in the study, there were 54 (51.4%) males and 51 (48.6%) females. The referrals were from internal medicine clinics (68.6%) and surgery clinics (31.4%). The patients were most frequently diagnosed with adjustment disorder (46.7%). The other diagnoses were, respectively, depression (25.7%), anxiety disorder (9.5%), alcohol/substance use disorders (6.7%), bipolar disorder (3.8%), and psychotic disorder not otherwise specified (3.8%). Depression, bipolar disorder, alcohol/substance use disorders and psychotic disorder not otherwise specified were more frequent in patients staying in internal medicine clinics whereas anxiety disorder was more frequent in patients staying in surgery clinics. The average HAD-D and HAD-A scores of the patients staying in internal medicine clinics were, respectively,  $11.72 \pm 5.12$  and  $8.73 \pm 5.11$ . The average HAD-D and HAD-A scores of the patients staying in surgery clinics were, respectively,  $13.70 \pm 5.71$  and  $10.88 \pm 6.12$ . Statistically no significant difference was found between HAD scores of patients staying in internal medicine and surgery clinics.

**Conclusion:** According to our findings, psychiatric morbidity is significantly high in medical inpatients. Therefore, harmonious interaction between psychiatry and other medical clinics is of importance for the mental wellbeing of the medically ill.

**Keywords:** consultation, inpatient, psychiatry

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