

## Poster Presentations

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POSTER PRESENTATIONS



## 10th International Congress on Psychopharmacology & 6th International Symposium on Child and Adolescent Psychopharmacology

[Abstract:0100][Other]

### Assessment of psychopathology and parental behaviors of children and adolescents with obesity

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#### ABSTRACT

**Objective:** This study aims to examine the psychopathology, quality of life perception, eating behaviors and self-image of children and adolescents who are diagnosed with obesity; as well as their parents' behaviour, coping skills and the relations between these conditions.

**Methods:** In this study, 30 patients between the ages of 8–18 who have consulted the University of Akdeniz Pediatric Endocrinology Department and had BMI standard deviation above 2 and had no mental retardation or received no previous psychiatric consultations on the obesity were enrolled. Our control group included 30 healthy children and adolescents who were matching on the same demographic information (gender and age) with the treatment (patient) group, and they had no previous medical or psychiatric illnesses. The Schedule for Affective Disorders and Schizophrenia for School-Age Children-Present and Lifetime Version was administered to both groups, and the Rosenberg Self Image Scale was used to determine their self-images. The Quality of Life Scale for Children was administered to the children and adolescents as well as to their parents. To determine the methods of child rearing and coping strategies with stress, parents were administered the Family Life and Child Rearing Demeanours Scale and the Coping Strategies Scale.

**Results:** There were no significant sociodemographic differences between the two groups except for parents' educational level and socioeconomic status. As we found no differences on parenting styles and coping strategies, a higher percentage of psychiatric illnesses were detected in our study and the quality of life perception of parents was found lower in the obese group. Self-image scores were not varied between obese children and healthy controls. It was observed that obese group children's mother have more likely high obesity rates than the mothers in the control group children.

**Conclusions:** As a result of this study, psychiatric disorders were observed more frequently in obese children and adolescents. The perception of quality of life for obese children and adolescents seem alike with control groups' perception. However, the fact that obese children and adolescents' parents claim that their children's quality of life is not equal to other groups shows that obese children and adolescents are less aware of health condition and following problems they have and might possibly attain in the future.

#### KEYWORDS

Obesity; psychopathology; parents' behaviours; coping strategies; children; adolescents

[Abstract:0106][Addiction]

### A sociodemographic evaluation of youths with substance use disorders in a child and adolescent inpatient unit of Manisa Mental Health Hospital

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**ABSTRACT**

**Objective:** The aim of this study was to evaluate the demographic and clinical data of substance users who were in treatment at the Manisa Mental Health Hospital Child and Adolescent Psychiatry inpatient Department.

**Methods:** Medical records of substance user patients treated between May 2014 and May 2016 in Inpatient Child Psychiatry Unit of Manisa Mental Health Hospital were examined retrospectively. SPSS Statistical Package Program Version 20.00 for Windows was used for statistical analysis.

**Results:** 48 substance user child and youth had been treated. The age range of cases was between 13 to 18 ( $15.6 \pm 1.16$ ), the onset age of substance use was 13 ( $SD = 2.24$ ). 75% of these 48 cases is of male gender and 25% is female. The most common substance used is marijuana (%85.4). 93.8% of the substance user youth have met with the substance around friends. Living conditions were found to be lower socioeconomic level (60.4%).

**Conclusions:** According to our results, substance use is an important problem affecting youths, especially at lower socioeconomic level and male adolescents. Our study represents only the clinical sample, so there is a need for more community-based epidemiological studies.

**KEYWORDS**

Substance use; Inpatient unit; Sociodemographic evaluation; Child; Adolescent

[Abstract:0107][ADHD]

## The quality of life of children aged 7–17 years with attention-deficit hyperactivity disorder

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**ABSTRACT**

**Objective:** The aim of this study was to evaluate quality of life in children and adolescents aged 7–17 years with attention-deficit hyperactivity disorder (ADHD) who were not in treatment, to compare the results with those in healthy control group.

**Methods:** The study sample consisted of 41 patients diagnosed with ADHD and 33 healthy controls. The quality of life in all children was evaluated by the Pediatric Quality of Life Inventory (PedsQL). The healthy control group consists of healthy trials without any psychiatric disease.

**Results:** The quality of life based on subscale scores and total scale scores was found significantly lower in parents of children with ADHD than in parents of healthy children. It was observed that children with ADHD had significantly lower Psychosocial Health Total subscale scores for PedsQL filled out by children compared to healthy control group.

**Conclusions:** The quality of life of children with ADHD is impaired during observation and plays an important role at the beginning of treatment. The results of the study showed that ADHD was observed to be affecting the quality of life negatively in every aspect of children's lives. When evaluation during observation and treatment of ADHD, care should cover all living areas, not just academic activities at school.

**KEYWORDS**

Adolescents; attention-deficit hyperactivity disorder; children; Pediatric Quality of Life Inventory (PedsQL); quality of life

[Abstract:0134][Psychopharmacology]

## TRPV-1 channels contributes to antihyperalgesic effects of carbamazepine and oxcarbazepine

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**ABSTRACT**

**Objective:** The Vanilloid Receptor-1 (TRPV1) is expressed predominantly by sensory neurons. TRPV1 channels respond to noxious stimuli including capsaicin and heat, and also they are able to integrate contemporaneous exposure to these stimuli [1]. Capsaicin-induced thermal

**KEYWORDS**

Hyperalgesia; Carbamazepine; Oxcarbazepine; Capsaicin;

hyperalgesia is one of the consequences of activation of TRPV1 channels. Because of their role in nociceptive pathways and inflammatory processes, TRPV1 channels have become a substantial target for pain relief [2]. Investigating the action mechanisms of drugs used in pain management will provide us to guide findings for novel therapeutic approaches and drug development studies. In this study, it is aimed to examine the involvement of TRPV1 channel in antihyperalgesic effects of carbamazepine and its keto analogue, oxcarbazepine in rats.

**Methods:** Antihyperalgesic effects of carbamazepine (30 mg/kg p.o.) and oxcarbazepine (120 mg/kg p.o.) were assessed by Hargreave's apparatus. Before drug administration, hind paw withdrawal latencies evoked by thermal stimuli were assessed using a plantar test apparatus and recorded as the baseline values. Drugs were administered 45 min prior to intraplantar capsaicin injection (20 µg in 30 µL). Thermal withdrawal thresholds were reassessed 15, 30, 45 and 60 min after capsaicin injection [3].

**Results:** Data showed that thermal hyperalgesia occurs 15 min after capsaicin and persists for 30 min. Carbamazepine treatment significantly ( $p < 0.01$ ) improved thermal thresholds compared to capsaicin-treated control group at 15, 30 and 45 min post capsaicin injection. There was no significant difference between oxcarbazepine and capsaicin-treated groups at any time points tested.

**Conclusions:** Since capsaicin is a TRPV1 agonist and carbamazepine averted capsaicin-induced thermal hyperalgesia, it is suggested that antihyperalgesic effect of carbamazepine involves mechanisms related to TRPV1 channels. Its keto analogue, oxcarbazepine showed no significant effects; therefore, chemical derivatives of carbamazepine other than keto analogues were suggested to be synthesized and tested for antihyperalgesic activities in novel drug development studies. TRPV1-mediated antihyperalgesic effects shown in this study point out the need for research areas related to TRP activation in further studies for pain relief.

Transient Receptor Potential Channels; TRPV1 receptor

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[Abstract:0151][Other]

## Analysis of patients admitted to Düzce Atatürk State Hospital emergency department due to a suicide attempt

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### ABSTRACT

**Objective:** According to the World Health Organisation data, approximately 800,000 people commit suicide each year. Pesticides, hanging, and firearms are among the most preferred suicidal methods. In this study, we aimed to shed light on the preventive measures to be taken by determining the volume of admissions to the central hospital of the city because of suicide attempts and analyzing sociodemographic characteristics, cause of suicide, and most preferred suicide methods.

**Methods:** This study was conducted by retrospectively reviewing the records of patients who were admitted to Düzce Atatürk State Hospital's Emergency Service because of suicide attempt between November 2016 and November 2017 and for whom the "suicide attempt record form" was filled. The data were expressed as numbers and percentages.

**Results:** Among 152 patients admitted to the emergency department because of suicide attempt between November 2016 and November 2017, 107 were women (70.3%) and 45 were men (29.6%). Among these patients, 53.2% were aged 15–24 years; 51.9% were single and 47.3% ( $n = 72$ ) were elementary school graduates. Most patients admitted because of suicide attempt were unemployed or not working (41.4%). The most prominent reason for suicide was the presence of a psychiatric disorder (39.4%). Other primary reasons included

### KEYWORDS

Suicide attempt; emergency department; psychiatry; risk factor; sociodemographic factors



family conflicts (24.3%) and communication problems (22.3%). It is noteworthy that 97.3% ( $n = 148$ ) of the patients used drugs or toxic materials as the suicide method. Among women, the proportion of single women was high (54.2%). Among men, there was no remarkable difference between the proportion of married (48.8%) and single (46.6%) men. It was found that 37.3% ( $n = 40$ ) of women attempted suicide because of an existing psychiatric disorder, 27.1% ( $n = 29$ ) attempted suicide because of family conflicts, 20.5% ( $n = 22$ ) attempted suicide due to communication problems, and 8.4% ( $n = 9$ ) attempted suicide due to the problems with the opposite gender. All women attempted suicide by ingesting drugs or toxic materials. The leading cause of suicide in men was the presence of psychiatric disorders (44.4%), followed by communication problems (26.6%) and family conflicts (17.7%). The most common suicide method in men was also drug and toxic material ingestion (91.1%); however, suicide was also attempted with the help of a sharp object, firearm, gas cylinder or natural gas. The results of this study revealed that people who have female gender, young age, single status, lower educational level, and also being unemployed were more likely to attempt suicide and that the presence of psychiatric disorders lead to suicide attempt.

**Conclusions:** It is known that the life expectancy of people who attempt suicide decreases. It is also known that the presence of a psychiatric disorder is a risk factor for recurrent suicide attempts. Because one-third of young adults who have suicidal thoughts continue having suicidal thoughts after 4 years, it is suggested that patients with a previous history of suicide attempt should be approached meticulously and the existing risk factors for suicide attempt should be reviewed.

[Abstract:0155][Other]

## Evaluation of the parental attitudes, parental competency, and attachment styles of the mothers of the children at pre-school period who were admitted to child psychiatry services of mental health hospital

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### ABSTRACT

**Objective:** Mothers' attitudes, child's problem-solving skills and the quality of child's relationship with his/her father are important for child's social and emotional development. The deterioration of this relationship may cause the child to have some disorders and lead them to apply to a child psychiatry clinic. In this study it is aimed to evaluate attitudes, attachment styles to their husbands and competence perceptions of the mothers towards their children's problems whose children were at pre-school period with no cognitive developmental delay.

**Methods:** 40 children and their mothers were included into the study. The children were chosen among those who were aged between 0–72 months and had no developmental delay, which was found out as a result of developmental test but were admitted to the Child and Adolescent Psychiatry Clinic of Manisa Mental Hospital in 2016. As the control group, another 40 children and their mothers were included into the study and the children were the same age and gender with the sample group but were not admitted to the child psychiatry clinic. A sociodemographic information form was handed out to both groups. Child Adjustment and Parent Efficacy Scale (CAPES-TR) and Parent Attitude Research Instrument (PARI) were handed out to mothers in both groups. Finally, Experiences in Close Relationship Revised (ECC-R) was administered to mothers of both groups. SPSS Version 20 for Windows was used for statistical analyses. Chi-square was used for categorical data and Mann-Whitney U statistical analysis was used for assessment of scale scores. A  $p < 0.05$  value was accepted statistically significant.

**Results:** Upon the comparison of sociodemographic characteristics of both group members, the education level of mother in control group was found higher. It was found out that mothers of patient group were unemployed and that the most common reasons for admission to hospital were hyperactivity and bad-temper. It was found that peer-relationship problems and elimination disorders were more common in the sample group compared to the control group. According to CAPES-TR results, emotional, behavioural and social problems in the group that were admitted to psychiatry clinic were significantly higher than control group ( $p < 0.05$ ,  $p < 0.01$ , and  $p < 0.01$ , respectively). According to the same scale, mothers' self-confidence was found significantly lower ( $p < 0.01$ ). According to PARI results, the score of

### KEYWORDS

Attitude; child psychiatry; child rearing; mothers; preschool

the group that presented to clinic for over-motherhood reasons was found to be significantly higher ( $p < 0.01$ ). Likewise, authoritative attitude score was found to be significantly higher in patient group ( $p < 0.05$ ). As a result of assessment of ECC-R, no significant difference was found among the groups.

**Conclusions:** The results of this study shared similarities with other studies that found out that parental child-rearing attitude presented as a risk factor for behavioral problems among children. There are limited number of studies that examine the relationship between parental child-rearing attitude, parental competence perceptions, mothers' attachment styles, and children's behavioral problems at pre-school ages. More studies are needed with larger samples that includes such variables as personalities, mood, environmental factors, living conditions, family and peer relationships, school environment and that examine the interaction of these variables with each other.

[Abstract:0188][Other]

## Sociodemographic features, diagnosis, and the use of medication in patients receiving inpatient treatment in a child and adolescent psychiatry clinic of a mental health hospital

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### ABSTRACT

**Objective:** In our country, the number of closed pediatric psychiatry clinics is extremely low. As a result, the literature about the diagnosis and treatment preferences of children and adolescents who are followed-up in the inpatient units are very limited. The aim of this study is to evaluate diagnosis, treatments, and sociodemographic characteristics of the patients in our inpatient unit, which is the one of Turkey's leading indoor child and adolescent inpatient services.

**Methods:** Medical records of 102 hospitalized and treated patients in 2016 in a mental health hospital have been retrospectively reviewed.

**Results:** 52 male and 50 female children between the ages of 9–17 were evaluated. A large majority of the children (82%) came from different cities. More than one-third of the children (38%) had broken families. Sixteen percent were ward of the state. There was a substance use history in the third. Twelve percent were sexually abused. One out of every five patients was referred to as a judicial case. 30% of these patients were referred for hospitalization from another hospital's psychiatry department. The average length of stay was 17.9 days. The most frequent diagnoses were conduct disorder (55%), major depression (33%), substance abuse (28.4%), psychosis (12.9%), bipolar mood disorder (11.8%), attention-deficit/hyperactivity disorder (9.8%), posttraumatic stress disorder (9.8%), substance dependence (8.8%), mild cognitive developmental retardation (8.8%), anxiety disorder (2.9%), moderate cognitive developmental retardation (2.2%), and pervasive developmental disorder (2%). Ninety six of the 102 patients (94.1%) had used at least one psychotropic agent before hospital admission. The most preferred drugs in the treatment period were antipsychotics (87.3%). When drug use during the hospitalization was taken into account, it was observed that the most preferred drug group was antipsychotics (87.3%). Other commonly used drug groups were selective serotonin reuptake inhibitors (33.3%), anxiolytic drugs (52.0%), and mood stabilizers (34.3%). At least two psychotropic agents were used in 88 patients (86.3%). Most of our patients (94.8%) were using at least one psychotropic medication. Haloperidol-biperidine injection (46.1%), lorazepam (45.1%), risperidone (41.2%), quetiapine (33.3%), valproic acid (28.0%), and sertraline (27.5%) were the most commonly used psychotropic treatments.

**Conclusions:** The results of our study have been discussed in the context of findings found in other foreign studies. We believe that further research and sharing of experience on this relatively under-worked field will contribute positively to both mental health of children and adolescents and also outpatient/inpatient treatment units that are still in the process of development.

### KEYWORDS

Child and adolescent psychiatry; inpatients; psychotropic drugs; socio-demographic features; Turkey

[Abstract:0199][Anxiety disorders]

## Relationship between the psychiatric profiles, childhood traumas, and parental attitudes in patients who presented to the emergency service with chest pain

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### ABSTRACT

**Objective:** To examine the relations of psychiatric symptomatology, childhood traumas and parental attitudes with chest pain in patients admitted to Emergency Service. We hypothesized that childhood traumas and authoritarian parental attitudes were related to non-cardiac chest pain and current and lifetime anxiety and depressive disorders.

**Methods:** The diagnostic interview with 106 patients was made by DSM-IV Structured Clinical Interview-I (SCID-I). According to results of cardiology consultation, the patients were separated into cardiac ( $n=40$ ) and non-cardiac chest pain ( $n=66$ ) groups. In total sample, we used Hamilton Anxiety Rating Scale, State and Trait Anxiety Scale 1–2 (STAI-1, STAI-2), Hamilton Depression Rating Scale, Childhood Trauma Scale, and Parent Attitude Scales to determine the current diagnoses of depression and anxiety disorders, and the severity of lifetime traumas, and the attitude profiles of the parents.

**Results:** There were no statistical differences between the cardiac and non-cardiac chest pain groups in terms of childhood traumas and parenthood attitudes, current severity of depression, and anxiety. There were no significant correlations between the scores of anxiety and depression, childhood trauma, and parental attitude.

**Conclusions:** The physicians at the Emergency Services usually consider that the non-cardiac chest pain symptoms in emergency department are based on any psychiatric disorders. In the present study, we hypothesized that the patients with non-cardiac chest pain had more previous history of childhood traumas, and more likely to have authoritarian parents compared to those with cardiac chest pain. However, in contrast to our expectations, we failed to find any significant differences between the two groups in terms of the history of childhood trauma and negative parental attitudes. Moreover, we could not find any correlations between the severity of anxiety and depression, and previous history of childhood trauma, and authoritarian parental attitude. Therefore, we suggest that the patients with non-cardiac chest pain did not necessarily have any psychiatric disorders, and previous history of childhood traumas, and authoritarian parental attitudes. Therefore, we suppose that the patients with non-cardiac chest pain should be more carefully assessed and monitored in more detail by cardiology and emergency departments.

### KEYWORDS

Emergency; chest pain; childhood; trauma; temperament

[Abstract:0223][Psychopharmacology]

## Beneficial effect of Tofisopam administration on spatial learning and memory parameters of amnesic rats

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### ABSTRACT

**Objective:** Tofisopam, a 2,3-benzodiazepine derivative anxiolytic drug, is prescribed in various countries such as Czech Republic, Hungary, Russia, and Japan. Tofisopam has been reported to possess some advantages over the traditional 1,4-benzodiazepines, due to the absence of anticonvulsant, sedative, skeletal muscle relaxant effects or motor skill-impairing properties. Activity profile on cognitive functions seems to be another difference of tofisopam from its classical counterparts, since previous studies have not described any amnesic effect induced by it. In fact, a limited number of clinical reports have suggested a nootropic activity potential for this drug [1,2]. Based on this potential, we examined the effect of tofisopam on

### KEYWORDS

Amnesia; learning and memory; Morris water maze; scopolamine; tofisopam



spatial learning and memory parameters of amnesic rats in order to clarify probable effects of this drug on cognitive disorders.

**Methods:** Studies were performed using adult male Wistar rats weighing 200–250 g. Amnesia was induced by scopolamine administration (0,5 mg/kg *i.p.*). Then, rats were treated with tofisopam (50 mg/kg/day *p.o.*) for one week. Cognitive performances of the animals were assessed by Morris water maze (MWM) test, while spontaneous locomotor activities were examined by activity cage tests [3].

**Results:** In MWM tests, in the amnesia group, the escape latency values were significantly higher than those of the healthy control groups on days 2, 3, and 4. However, following the tofisopam administrations, amnesic animals located the hidden platform significantly faster than their respective untreated amnesic groups. Additionally, amnesic animals spent significantly less time in the target quadrant in comparison to the healthy ones. However, administrations of tofisopam to the amnesic animals induce significant increase in the time spent in this quadrant. Moreover, in the activity cage tests, total number of neither horizontal nor vertical locomotor activities were altered by the tofisopam administrations.

**Conclusions:** Scopolamine administration induced an impairment of acquisition as well as retention in the water maze task. On the other hand, tofisopam-treated amnesic rats located the hidden platform faster and stayed longer in the target quadrant than the untreated amnesic animals, suggesting that impaired spatial learning and memory capacity was significantly improved following tofisopam treatments. Considering that one of the main side effects of the classical 1,4-benzodiazepines is amnesia, the clinical importance of beneficial effect of anxiolytic drug, tofisopam, on cognitive functions can be better understood. On the other hand, the anti-amnesic activity potential of tofisopam needs to be confirmed by further well-designed clinical trials.

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[Abstract:0227][Other]

## Evaluation of Sociodemographic features, Alexithymia, and personality characteristics of resident physicians working In a university hospital

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### ABSTRACT

**Objective:** Alexithymia, which means “no words for emotions,” has been revealed through research and clinical observations that may be in many psychological disorders such as depression, posttraumatic stress disorder, substance abuse, and even a personality trait in healthy populations. This makes the differences in opinion about whether alexithymia is a personal tendency or personality trait or a psychological disorder or symptom. Working as a physician requires intense attention and communication with people. Therefore, alexithymia and personality traits are important in the practice of the medical profession. Our aim in this study is to evaluate sociodemographic features, alexithymia and personality characteristics of resident physicians working in Pamukkale University Hospital.

**Methods:** This study included 130 resident physicians working in Pamukkale University Hospital. Participants completed the sociodemographic data collection form, Toronto Alexithymia Scale-20 (TAS-20), and the Eysenck Personality Questionnaire Revised-Abbreviated Form (EPQR-A).

**Results:** Of the 130 subjects who participated in the study, 66 (50.8%) were male and 64 (49.2%) were female. The mean age of the group was 28.17, 54.6% of the persons were single, 43.1% were married, and 2.3% were divorced. 46.2% were living alone, 39.2% were spouses and / or children, and 9.2% were living with their parents. 29.2% of the group had migration, 16.9% had chronic disease, and 23.1% had a psychiatric illness. 55 (65.4%) of the resident physicians were working in the non- surgical branches, and 45 (34.6%) were working in the surgical branches. 9.2% of the participants in the study had a childhood trauma. 24.6% of the physicians were smoking,

### KEYWORDS

Toronto Alexithymia Scale-20; Eysenck; personality characteristics; physicians; sociodemographic features

and 44.6% were using alcohol. Smoking and alcohol use was higher in the surgical branches than in the non-surgical branches ( $p = 0.011$  and  $p = 0.001$ , respectively). The mean TAS-20 score was  $45.05 \pm 8.2$ . 3.8% of the participants were pure alexithymic, 23.1% were borderline alexithymic. There was no significant difference between non-surgical and surgical groups for the presence of alexithymia. There was a significant difference in alexithymia between those with and without migration ( $p = 0.023$ ). Alexithymia was present in 32.6% of immigrants and in 13.2% of the others. EPQR-A was examined in 4 subclasses in the form of neuroticism, extraversion, psychoticism, and lie. There was a statistically significant difference in neuroticism and extraversion between those with and without alexithymia ( $p < 0.001$  and  $p = 0.013$ , respectively). The mean neuroticism score of those with alexithymia was  $3.71 \pm 1.7$  and the extraversion mean  $2.69 \pm 2.3$  and those without alexithymia were  $2.11 \pm 1.6$  and  $3.86 \pm 1.8$ , respectively. There was positive correlation between TAS-20 and neuroticism ( $r = 0.399$ ) and negative correlation between TAS-20 and extraversion ( $r = -0.230$ ).

**Conclusions:** In conclusion, our results supported that there was no associations of occupational characteristics such as working in non-surgery or surgery branches of medicine with alexithymia. Alexithymia was thought to be associated with personality characteristics, particularly neuroticism. There is a need for more comprehensive new studies in this regard.

[Abstract:0230][Psychiatric nursing]

## Mental disorders in siblings: experiences and problems

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### ABSTRACT

**Objective:** Siblings of children diagnosed with mental disorders experience changes in their roles within family such as assuming parental role and growing rapidly. These changes cause many problems. However, individuals can develop flexibility and endurance against problems [1]. This study aimed to review studies on siblings of children with mental disorders in Turkey and raise awareness about related problems and experiences.

**Methods:** To determine the problems and experiences of siblings of children with mental disorders, Turkish Medical Database, Turkish Psychiatry Index, Google Academics, and CoHE Thesis Center were searched using the keywords child, mental disorder, and sibling. Descriptive studies on healthy siblings of 8- to 18-year-old children with mental disorders were reviewed.

**Results:** Eight studies (five research articles and three theses) were directly related to the subject. A study by Aldan and Vural (2013) found no difference between behavioral and emotional adaptation and self-concept of children having a sibling with autism spectrum disorder (ASD) and those in the control group; that children having a sibling with ASD received more social support from their families; and that male children were at risk of adaptation problems. The study found that when parents perceive the mental health of their children with autism to be poor, their siblings experience more adaptation problems [2]. A study by Alagözoğlu (2016) found that individuals having a sibling with ASD felt loneliness and had problems in social relationships [3]. Another study by Eyüboğlu et al. (2017) found that prosocial behavior, physical health, emotional functionality and psychosocial health of children having a sibling with ASD were poorer compared to those in the control group [4]. A study by Taner et al. (2007) found no significant difference between siblings of children diagnosed with obsessive compulsive disorder starting in childhood and those in the control group in terms of having psychopathology [5]. Another study by Saban and Arıkan (2013) found that trait anxiety levels were higher for children having a mentally disabled sibling. A qualitative study by Aykara (2015) reported that individuals who had a mentally disabled sibling most frequently had incomplete experiences due to failure to accept the situation and longing to share something different with a sibling who does not have disability, or lacking parental interest and loneliness. Another study by Akalın (2005) found that siblings of children with Attention-Deficit/ Hyperactivity Disorder (ADHD) experienced social and behavioral problems more often and behaved aggressively in their relationship with siblings, and that their parents paid more attention to the children with the disorder. A study by İmren (2010) reported that children having a sibling with ADHD had lower academic achievement levels, higher levels of ADHD, enuresis and anxiety disorder diagnoses, and higher ADHD symptoms, emotional and behavioral problem levels.

**Conclusions:** Studies show that children having a sibling with mental disorder are at risk of having mental, emotional and behavioral problems, but these experiences may enable them to gain endurance. Since their families may neglect their problems, mental health professionals should carefully assess them for early diagnosis and planning interventions.

### KEYWORDS

Childhood mental disorders; life experiences; mental health problems; preventive psychiatry; siblings

[Abstract:0258][Other]

## Peer bullying findings in adolescents who refer to the outpatient clinic of child and adolescent mental health and illness

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### ABSTRACT

**Objective:** Peer bullying is defined as a child or adolescent having difficulty in defending himself or herself from being exposed to disturbing behavior deliberately made by one or more students in a repetitive manner. Child and adolescents take part in peer bullying as victim, bully or bully/victims. The aim of this study is to determine frequency of peer bullying and risk factors in adolescents aged between 12 and 16 years who admitted our child and adolescent psychiatry outpatient clinics.

**Methods:** This study was carried out between September 2017 and November 2017 at the Inonu University's Department of Child and Adolescent Psychiatry Clinic. 214 adolescents participated in the study. Olweus Bully/Victim Questionnaire, Depression Scale For Children, sociodemographic form were administered to all participants. When statistical analysis was carried out, the bully/victims were evaluated as bully.

**Results:** As a result of obtained data, it was determined that frequency of peer bullying was 49.1%. It was determined that 63% of participants were exposed to bullying at least once, and 36% were bullied at least once. 14.7% of the participants had additional chronic physical disease, and 28.9% had comorbid psychiatric disorder. The most frequent clinical diagnoses found in victims were depression (41%) and ADHD (26%), and in bullies, anxiety disorder (15%), depression (38%), ADHD (31%), and anxiety disorder (13,8%). The incidence of depression was 22.6% in noninvolved peer bullying, 41.1% in victims, and 37.9% in bullies. The depression scale median scores were 11, 21.5, and 21 for noninvolved peer bullying, victims, and bullies, respectively.

**Conclusions:** When the literature is reviewed, the studies on the frequency of peer bullying have been conducted mostly in school samples. In a meta-analysis study, the frequency of peer bullying was 35%. When the studies done in our country were reviewed, the frequency of peer bullying varies between 21 and 71%. This difference in frequency rates may be due to differences in the age characteristics of the selected sample groups and the methodological methods employed. The results from our study were found to be higher than other studies which the same age group and similar methodology used. In addition, our results suggest that the participation in peer bullying in one of the two adolescents who were presented to the child psychiatry clinic. The presence of chronic physical illness in our study was found to be a risk factor for both bullying and victimization. Meta-analysis study has found that children and adolescents with chronic illness are more likely to be victims and bullies, with the greatest increase being victims. In our study, depression was found to be more frequent in both victims and bullies than in those who did not participate in peer bullying, consistent with the literature. It was also found to be accompanied by a secondary psychiatric diagnosis in both victims and bullies more frequently. This suggests that participation in peer bullying results in more psychiatric disorders. Therefore, we think that it would have beneficial outcomes for child and adolescent psychiatrists to question peer bullying that has many negative consequences in clinical practice.

### KEYWORDS

Adolescents; bullying; abuse; clinical; depression

[Abstract:0278][ADHD]

## Risk of mild head injury in Preschool children: relationship to attention-deficit/hyperactivity disorder symptoms

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**ABSTRACT**

**Objective:** Irrespective of health, economic, and social conditions, trauma (including head injuries in children) is a major problem in every society. In all age groups worldwide, trauma is a leading cause of hospitalization, disability, and mortality. Knowledge of the epidemiology and identification of injury risk factors are essential for the prevention of injury. In the field of injury research, psychological factors have always been of interest. The aim of this study was to examine whether there is an association between mild head injury (MHI) and attention-deficit/hyperactivity disorder (ADHD) symptoms in preschool children.

**Methods:** The study included 30 children aged 3–6 years with mild head trauma as the patient group and 30 healthy age- and gender-matched children as the control group. The symptoms of ADHD were evaluated using the Conners Parent Rating Scale-Revised Long form (CPRS-RL).

**Results:** The mean age was  $4.73 \pm 1.13$  years in the patient group and  $4.65 \pm 0.99$  years in the control group. No significant differences were determined between the groups in respect of age, gender, parents' age, and education ( $p > 0.05$ ). The total subscale points of the children with MHI were significantly higher than those of the control group in respect of oppositional disorders, cognitive problems/inattention, hyperactivity, social problems, ADHD index, Conners Global Index (CGI)-irritability-impulsivity, CGI-Emotional Lability, CGI-Total, and DSM-IV Symptoms Subscale ( $p < 0.05$ ). A history of previous trauma was determined in 8 of the 30 patients (26.7%).

**Conclusions:** The findings of this study suggest that children with MHI have more ADHD symptoms and emotional-behavioral symptoms than healthy children without trauma. Clinicians should screen children with MHI for ADHD symptoms and refer them for treatment when necessary. Evaluation of children presenting with MHI by a child psychiatrist may prevent repetition of injuries. As ADHD is a treatable and easily detectable condition, appropriate and timely identification and treatment could prevent further injuries.

**KEYWORDS**

Mild head injury; trauma; preschool children; ADHD; emotional and behavioral symptoms

[Abstract:0307][Forensic Psychiatry]

## Reliability, validity, and factorial structure of the Turkish version of the structured inventory of malingered symptomatology (Turkish SIMS)

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**ABSTRACT**

**Objective:** Smith and Burger developed the Structured Inventory of Malingered Symptomatology (SIMS) in 1997 as a self-report measure for malingering of psychiatric symptoms. The SIMS consists of 75 dichotomous (True-False) items that can be categorized into five subscales: Psychosis (P), Neurologic Impairment (NI), Affective Disorder (AF), Amnesic Disorders (AM), and Low Intelligence (LI), with each subscale containing 15 items. In this study, we aimed to examine the reliability, validity, and factor structure of the SIMS in a Turkish forensic psychiatry sample.

**Methods:** A sample of 103 forensic patients (9 female, 94 male), aged 18–75, undergoing an inpatient forensic evaluation for competency assessment for criminal responsibility were recruited from a large forensic hospital in Turkey. The study protocol was approved by the local Ethics Committee. Sociodemographic information of the participants was collected and the SIMS, Miller Forensic Assessment of Symptoms Test (M-FAST), the Scales of Psychological Well-being, 36-Item Short Form Survey (SF-36), Beck Depression Inventory (BDI), and Beck Anxiety Inventory (BAI) were administered. All statistical analyses were performed by using SPSS version 23.0 for Windows.

**Results:** The Cronbach's alpha coefficients for the Turkish SIMS were ranging from 0.42 to 0.87. The lowest alpha coefficient was observed for the Amnesic Disorders (0.46). For the whole scale, Cronbach's alpha coefficient was found to be 0.93. The test-retest (at after 1 week) correlation coefficients for Psychosis (P), Neurologic Impairment (NI), Affective Disorder (AF), Amnesic Disorders (AM), Low Intelligence (LI), and whole scale were found to be 0.97, 0.97, 0.95, 0.91, and 0.96, respectively. A positive and statistically significant correlation was found between the Turkish SIMS and BDI ( $r = 0.593$ ,  $p < 0.01$ ), BAI ( $r = 0.578$ ,  $p < 0.01$ ), M-FAST subscale Reported versus Observed Symptoms ( $r = 0.660$ ,  $p < 0.01$ ), M-FAST subscale Extreme

**KEYWORDS**

Structured Inventory of Malingering Symptomatology; reliability; validity; factor structure; malingering

Symptomatology ( $r = 0.686$ ,  $p < 0.01$ ), M-FAST subscale Rare Combinations ( $r = 0.729$ ,  $p < 0.01$ ), M-FAST subscale Unusual Hallucinations ( $r = 0.698$ ,  $p < 0.01$ ), M-FAST subscale Unusual Symptom Course ( $r = 0.568$ ,  $p < 0.01$ ), M-FAST subscale Negative Image ( $r = 0.514$ ,  $p < 0.01$ ), M-FAST subscale Suggestibility ( $r = 0.426$ ,  $p < 0.01$ ), and MFAST Total ( $r = 0.794$ ,  $p < 0.01$ ) scores. Principal axis factor analyses with Promax rotation were performed and four-factor solution that accounted for 39.87% of the variance observed.

**Conclusions:** Our preliminary findings suggested that Turkish SIMS was a valid and reliable tool with a robust factorial structure for further use in detecting malingering of forensic psychiatric cases in Turkey.

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[Abstract:0315][Eating disorders]

## Intracellular ROS level alteration by Sibutramine: a confocal fluorescence assessment

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### ABSTRACT

**Objective:** Binge-eating disorder is common in obese patients and is frequently accompanied by comorbid depression. Sibutramine, an antiobesity drug with serotonin/norepinephrine reuptake inhibition activity, has been shown to be effective in weight loss and depression in obese patients with binge-eating disorder [1]. However, sibutramine has been banned since 2010 due to cardiovascular safety issues. Even so, slimming products or counterfeit drugs (which include sibutramine) are still available. Patients with binge-eating disorder and comorbid depression may tend to use slimming products. Understanding the mechanisms underlying sibutramine's cardiotoxicity will provide more efficient clinical approaches to cardiotoxicity cases. Since, in this study, it is aimed to examine participation of oxidative stress, whose elevation has been proposed to involve in arrhythmogenesis [2], to cardiotoxic effects of this drug.

**Methods:** Cardiomyocytes were isolated freshly from rat heart. Following the digestion of the heart by collagenase, cardiomyocytes were washed with collagenase-free solution. Subsequently, to obtain Ca<sup>2+</sup> tolerance, cells were exposed to Ca<sup>2+</sup> in a graded manner. Effects of 10<sup>-5</sup> and 10<sup>-6</sup> M sibutramine incubation for 2 hours on ROS levels were tested. Cardiomyocytes were loaded with a ROS indicator chloromethyl-2',7'-dichlorodihydrofluorescein diacetate (DCFDA, 10 µM for 60 min incubation) and then are examined with a LEICA TCS SP5 laser scanning microscope. DCFDA was excited at 488 nm and emission collected at 560 nm. For maximal fluorescence intensity, cells were exposed to H<sub>2</sub>O<sub>2</sub>. The peak fluorescence changes ( $\Delta F/F_0$ , where  $\Delta F = F - F_0$ ; F identified as local maximum elevation of fluorescence intensity over basal level, F<sub>0</sub>) are calculated from confocal images and results are given as percentage changes in the fluorescence intensities [3].

**Results:** The responses in sibutramine incubated cells were significantly less compared to the controls, indicating high ROS production. Both doses tested showed significant enhancing effects on ROS levels in cardiomyocytes ( $p < 0.01$  for 10<sup>-6</sup> and  $p < 0.001$  for 10<sup>-5</sup>).

**Conclusions:** Elevated cellular ROS induce alterations of the cardiac sodium channel, abnormal Ca<sup>2+</sup> handling, changes of mitochondrial function, and gap junction remodeling, all leading to arrhythmogenesis [2]. The results obtained from this study suggest that one of the mechanisms involved in cardiotoxicity of sibutramine is its enhancing effect on ROS levels. Elucidating cardiotoxicity mechanisms of sibutramine will provide assistance to clinical approaches. Further studies are under investigation to unveil cardiac toxicity profile of this drug.

### KEYWORDS

Binge-eating disorder; sibutramine; cardiotoxicity; reactive oxygen species; confocal microscopy

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reactive nitrogen species. *Biol Trace Elem Res.* 2016;169(2):294–302.

[Abstract:0319][Impulse control disorders]

## Verbal and physical aggression in intermittent explosive disorder

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### ABSTRACT

**Objective:** IED is defined as the failure to resist aggressive impulses resulting in recurrent acts of impulsive aggression. DSM-5, by including verbal aggression as a new criterion, has brought a new dimension to the types of aggressive episodes reported. The current study examined the differences between patients diagnosed with IED based on only verbal aggression criteria (IED-V), only physical aggression criteria (IED-P), and both physical and verbal aggression criteria (IED-B).

**Methods:** The study population included 70 participants with the lifetime diagnosis of IED according to DSM-IV and/or DSM-5 referred to the outpatient clinic of the Department of Psychiatry. Cases were classified as IED-V, IED-P, and IED-B. Axis I disorder and Axis II disorder diagnoses were made according to the Diagnostic and Statistical Manual of Mental Disorders, fifth edition (DSM-5) criteria. Diagnoses were based on information from the Structured Clinical Interview for DSM-IV (SCID I) and the Structured Clinical Interview for DSM-IV personality disorders (SCID II), Symptom Checklist-90 (SCL-90), Wender Utah Rating Scale, Adult Attention-Deficit/Hyperactivity Disorder (ADHD) DSM-IV Based Diagnostic Screening and Rating Scale, a clinical interview conducted by the researcher, and a sociodemographic data form. In addition, participants were administered the Buss-Perry Aggression Scale and Barratt Impulsiveness Scale Version 11 (BIS-11) to assess aggression and impulsivity.

**Results:** The present study was conducted with 70 patients aged between 18 and 65 years (mean: 31.3 ± 12.1 years). The majority of the sample were men (61%), married (55%), had at least high school education (75%), and low-level socioeconomic status (52%). There were no statistically significant differences between sociodemographic characteristics of IED-V, IED-P, and IED-B groups. The presence of A2 criterion marked by physical aggression-result in physical injury ( $p=0.007$ ) and functional impairment in occupational area ( $p=0.01$ ) were significantly more often in males. The history of lifetime suicide attempt was significantly higher in IED-B group than in other groups ( $p=0.028$ ). Aggression/ anger problem reported as a complaint when questioned during the clinical interview was significantly more often in IED-P and IED-B groups than in IED-V group ( $p=0.024$ ). In addition, total aggression ( $p=0.011$ ), physical aggression ( $p=0.001$ ), total impulsivity ( $p=0.028$ ), and motor impulsivity ( $p=0.043$ ) scores were significantly higher in IED-B group than in IED-P group. As for the lifetime comorbidity of participants, it revealed that childhood conduct disorder and oppositional defiant disorder were significantly higher in the IED-B group (respectively,  $p=0.041$  and  $p=0.009$ ).

**Conclusions:** Findings are consistent with the suggestion in literature that the individuals who engage in both frequent verbal aggression and physical aggression had more severe profile. It was determined that more than half of the cases with IED have not referred for treatment because of the complaints of aggression/ anger problems before. It was also noted that 50% of this group of participants had met only the criterion of verbal aggression. Although these data suggest that verbal aggression were not taken into account as much as physical aggression by the cases, it is necessary to conduct studies with larger populations in different cultures.

### KEYWORDS

Intermittent explosive disorder; verbal aggression; physical aggression; impulsivity; anger

[Abstract:0330][Mood disorders]

## A comparison of socio-demographic and clinical features of inpatients with Bipolar Disorder I and Bipolar Disorder II in a university hospital

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#### ABSTRACT

**Objective:** The aim of the current study is to compare sociodemographic and clinical features of in patients with Bipolar I Disorder (BP1) and Bipolar II Disorder (BP2) such as age at onset, suicidal attempt and comorbid psychiatric disorders; hospitalized between January 2017 and December 2017 in Pamukkale University.

**Methods:** The data were collected by examining retrospectively the hospital records and patient files at Pamukkale University's Department of Mood Disorders. 110 inpatients diagnosed with BP1 and BP2 according to DSM-V, aged over 18 years were included in the study. Statistical analyses were performed by using SPSS 24.0 for Windows. Chi-square analysis was used to compare categorical variables. Mann-Whitney U test was used to compare the independent groups.

**Results:** We found that 86% ( $n = 95$ ) of 110 patients were diagnosed BP1, and 14% ( $n = 15$ ) with BP2. As presented in Table 1, there was no significant difference between the groups in terms of age, gender, marital status, education, employment, and use of alcohol/substance. The mean of age at onset of the disease was  $28.1(\pm 11.6)$  for BP1 and  $30.8(\pm 13.2)$  for BP2; and no significant difference was found between the two groups in terms of the age of onset ( $p = 0.414$ ). In BP1, the suicide attempt rate was 26% and in 33% BP2 and there was not any statistically significant difference ( $p = 0.59$ ). Comorbid psychiatric disorder was 40% in BP1 patients; and 46.7% in BP2 patients and there was no statistically significant difference between the two groups either ( $p = 0.626$ ). Additionally, we found that 20% of BP1 and 26.7% of BP2 patients had dual mood stabilizer treatment.

**Conclusions:** In this study, no significant difference was found between BP1 and BP2 patients in terms of sociodemographic data, consistent with the literature. Although we did not find any significant differences between the groups; age at onset seems to be higher in BP2 patients. This may be a sign that BP2 patients may be delayed in diagnosis, possibly due to less degradation in functionality. Although we did not find any significant differences between the groups; smoking habits and use of alcohol/substance seems to be higher in BP1, consistent with the literature. Using dual mood stabilizer rates was found to be higher and this may indicate the increased rates of using dual mood stabilizers recently. It is known that 5 to 25% of BP patients have had suicidal attempts. In our study, this ratio was found to be 32% in the patient group consistent with the literature; additionally there was no significant difference between BP1 and BP2 in terms of suicidal attempt. These results also show the importance of BP2 and suggest that more attention should be paid to suicide in BP2 patients. Furthermore, it should be taken in to consideration that high rates of comorbid psychiatric disorders in both groups may cause confusion in differential diagnosis, and may lead to multiple drug use.

#### KEYWORDS

Bipolar Disorder; mood stabilizer; Bipolar I; Bipolar II; socio-demographic features

**Table 1.** Socio-demographic variables between the groups.

	Bipolar I % (n)	Bipolar II % (n)	p
<i>Gender</i>			
Male	44.2 (42)	53.3 (8)	0.859*
Female	55.8 (53)	46.7 (7)	
Age (Mean $\pm$ SD)	38.17(13.3)	42.33 (15.4)	0.275**
<i>Marital status</i>			
Married	50.5 (48)	46.7 (7)	0.781*
Single	49.5 (47)	53.3 (8)	
<i>Education</i>			
Primary	37.9 (36)	33.3 (5)	0.835*
High school	42.1 (40)	40.0 (6)	
University	20.0 (19)	26.7 (4)	
<i>Employment</i>			
Unemployed	66.3 (63)	60.0 (9)	0.633*
Employed	33.7 (32)	40.0 (6)	
Smoking Habits	61.1 (58)	46.7 (7)	0.292*
Alcohol use	26.3 (25)	26.7 (4)	0.977*
Substance use	13.7 (13)	6.7 (1)	0.449*

\*Chi-square test \*\*Mann-Whitney U test.

[Abstract:0332][ADHD]

## The Relationship of Platelet Activation Markers With Obsessive-Compulsive Symptoms in Adolescents with ADHD

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### ABSTRACT

**Objective:** Structural and functional imaging findings have shown common abnormalities in ADHD and OCD. However, neurochemically they are varied, in particular, the involvement of dopamine (ADHD) and serotonin (OCD) systems. Platelets have been widely used as a peripheral model of the serotonergic system. Mean platelet volume (MPV) can be accepted as the marker of the platelet activation, and is also involved in the inflammatory processes. Limited studies have focused on MPV in ADHD, and results are controversial. In the present study, we aimed to assess the relationship between the PLT, MPV, and PDW as platelet activation markers and obsessive-compulsive symptoms (OCS) in ADHD.

**Methods:** The retrospective study included 147 stimulant-free adolescents aged 12–17 years who had been diagnosed with ADHD in the period between 2015 and 2017. Exclusion criteria included the presence of the OCD, psychotic disorder, substance abuse/dependence, and coagulation disorders. OCS was assessed by Maudsley-Obsessive-Compulsive Inventory (MOCI). Platelet count (PLT), MPV, and PDW values were obtained from CBC results that were concurrent with psychiatric measurement filling date.

**Results:** The study included a total of 147 adolescents aged 12–17 years (68 females (46.3%) and 79 males (53.7%)). Of these subjects, 81 (55.1%) were ADHD-C, 66 (44.9%) were ADHD-I. There were no significant differences in PLT, MPV, and PDW values between the ADHD subtypes ( $p > 0.05$ ). Control, cleanliness, doubt, and total scores of MOCI negatively correlated with MPV, and PDW values in all patients ( $p < 0.05$ ). In ADHD-I group, control, cleanliness, and total scores of MOCI negatively correlated with MPV. In ADHD-C group, only control subscale scores negatively correlated with MPV and PDW. In ADHD-I group, PDW values negatively correlated with the control, cleanliness, doubt, and total scores of MOCI.

**Conclusions:** The findings of the present study indicated that increasing OCS severity was related to decreasing MPV and PDW levels in adolescents with ADHD. Our findings might reflect that the decreasing platelet activation can be related to abnormal platelet functions rather than platelet counts. Indirectly, increased MPV values accepted as the predictor for inflammatory process. Although there is preliminary evidence for elevated markers of inflammation in children with neuropsychiatric disorders, the data are inconsistent. Our findings supported this inconsistency with the findings showed negative correlation OCS severity and platelet activation. It could reflect the decreased platelet activity, and serotonergic dysfunctions may be the shared pathophysiological mechanism for OCS. There are a few studies that have focused on MPV in ADHD populations. Firstly, increased levels of MPV in ADHD were reported. Another study has failed significant differences in MPV values between ASD, ADHD and the control groups. We found that control, cleanliness, and doubt scores negatively correlated with MPV and PDW. Rumination and slowness scores were unrelated to platelet markers. Different neurotransmitters may contribute to these OCS clusters. To the best of our knowledge, this is the first study which examined the platelet activation markers and OCS in patients with ADHD. Controlled studies are needed to evaluate platelet activation markers between the ADHD and OCD.

### KEYWORDS

Adolescents; ADHD; mean platelet volume; obsessive-compulsive symptoms; platelet activation

[Abstract:0336][Psychopharmacology]

## *In vitro* Activity of Levetiracetam on Probiotic Microorganisms

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**ABSTRACT**

**Objective:** Studies conducted to examine the effects of probiotics on neurological and psychiatric disorders have increased in recent years. Research on the effects of probiotics has shown that probiotic consumption can cause changes in the composition of various neurotransmitters and receptors in different brain regions. The finding that consumption of *Lactobacillus rhamnosus* changes GABA mRNA expression in mice is an example of these findings. Examination of the compatibility of levetiracetam, a new-generation antiepileptic, and probiotic microorganisms, which have been shown to be effective on biochemical components that also play a role in epileptogenesis, is important for the treatment of epilepsy. This examination may also be valuable for the Human Microbiology Project, which examines the close relationship between the gastrointestinal system and nervous system [1,2].

**Methods:** In order to perform a microbial sensitivity test, Minimum Inhibitory Concentrations (MIC) determination of levetiracetam on probiotic microorganism strains *Lactobacillus rhamnosus* GG, *Lactobacillus reuteri* DSM 17938, *Lactobacillus acidophilus* La-14, *Bacillus coagulans* SNZ 1969, *Streptococcus salivarius* K12, *Bacillus subtilis* var. *clausii* ATCC9799, *Bacillus subtilis* var. *natto* BN, *Saccharomyces cerevisiae* var. *boulardii* ATCC - MYA976 and *Saccharomyces cerevisiae* ATCC - MYA9763 have been determined by microdilution method of the antibiogram test in Anadolu University Pharmacy Faculty Pharmacognosy Department Research Laboratory.

**Results:** MIC values for levetiracetam for *Lactobacillus rhamnosus* GG, *Lactobacillus reuteri* DSM 17938, *Lactobacillus acidophilus* La-14, *Bacillus coagulans* SNZ 1969, *Streptococcus thermophilus* TH-4, *Streptococcus salivarius* K12, *Bacillus clausii* ATCC 9799, *Bacillus natto* BN, *Saccharomyces boulardii* ATCC - MYA976 and *Saccharomyces cerevisiae* ATCC - MYA9763 were 400 mg/L, 200 mg/L, 200 mg/L, >400 mg/L, >400 mg/L, 200–100 mg/L, >400 mg/L, >400 mg/L, >400 mg/L and >400 mg/L, respectively. When the inhibitor concentrations of levetiracetam for probiotic microorganisms are examined, it can be seen that the most resistant microorganisms are faecal-derived and food-borne microorganisms, while lactic acid bacteria are less resistant.

**Conclusions:** It has been reported that the intestinal microbiota composition may affect the prognosis of and predisposition to epilepsy [3]. For all microorganisms tested, the MIC values were found to be above the maximum plasma concentration of levetiracetam, 50.5 mg / L [2]. These findings have suggested that levetiracetam in the therapeutic dose range does not show inhibitory activity on microflora components that may play a therapeutic role in epileptic processes. The obtained data have introduced a basis for the investigation of the relationship between the gastrointestinal system and the central nervous system in epileptic processes for subsequent studies.

**KEYWORDS**

Levetiracetam; microbiota; probiotics; epilepsy; microbial sensitivity tests; human microbiome project

**References**

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[Abstract:0355][ADHD]

## Is being a surgeon a kind of self-treatment for attention-deficit/ hyperactivity disorder (ADHD)?

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**ABSTRACT**

**Objective:** Attention-deficit/ hyperactivity disorder (ADHD) is a neuropsychiatric disorder that begins in childhood, severely impairs daily functioning in many areas such as lifelong, affected adults' functionalities in academic, social, and occupational life. The prevalence of ADHD in the general population decreases with age. The prevalence of ADHD is approximately 8% in childhood, 6% in adolescence and 4% in adulthood. The onset of ADHD in childhood, the onset of adulthood in the adult period and impairment of function in various areas, increases the importance of identifying this disorder in adulthood. The effects of ADHD on occupational choice and the differences between ADHD subtypes have not been studied adequately. In this study, we aimed to examine the prevalence of ADHD and the effect of branch selection in surgical residents in a university hospital.

**KEYWORDS**

ADHD; functionality; prevalence; surgeon; treatment

**Methods:** Turgay ADHD scales were asked to surgical trainees in Pamukkale University School of Medicine Hospital and to specify the factors that affect the choice of profession the most.

**Results:** 38 surgical trainees were included in the study. 15 of them were emergency medicine, 7 were anesthetist, 2 neurosurgeon, 1 ophthalmologist, 2 gynecologist, 2 otorhinolaryngologist, 3 orthopedist, 3 plastic surgery, and 3 associates who did not want to mention the department. 35.1% of the participants were female, and 64.9% were male. ADHD was found in 18.4% of the surgeons with attention deficit subtype, 18.4% with hyperactivity subtype, and 15.8% with combined subtype in total 52.4% ( $n = 20$ ). Participants in the ADHD group were the criteria they chose in choosing a profession; 41.2% of them liked the area, 29.4% were coincidental, 23.1% were special causes and 5.9% were comfortable.

**Conclusions:** It has been shown that the problems experienced by people with ADHD are not only caused by symptoms of illness or psychiatric comorbidity, but also by many other areas of life. Legal problems in adulthood face difficulties in business and professional life. Life-long academic success tends to be low and business life to fail. They are less educated, less general, and professional educated, 3–10 times more likely to graduate, university grades are lower, resulting in lower job performance and higher unemployment rates, lower level of functionality in business life have shown in many studies that they work, work in less qualified jobs, and earn less. Some of the cases of adult ADHD have been able to adapt their habitat to reduce the loss of function the least. Individuals can find suitable jobs, live alone or develop appropriate long-term relationships, and succeed in other issues, such as closing the difficulties associated with ADHD. The higher the frequency of ADHD in terms of collection rate in surgical science residents; these branches tend to be more mobile and labor-intensive than those with internal sciences. Therefore, surgical branches can be interpreted as better suited to work life by better coping with the difficulties associated with ADHD. New studies are needed to identify the difficulties associated with ADHD and to identify corrective factors.

[Abstract:0380][Psychopharmacology]

## Contribution of dopaminergic mechanisms to the anti-hyperalgesic effects of reboxetine in rats with diabetic neuropathic pain

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### ABSTRACT

**Objective:** Reboxetine is a potent and selective noradrenaline re-uptake inhibitor drug being prescribed for the treatment of depression, panic disorder, and attention-deficit/hyperactivity disorder in many countries. In our previous studies, we presented that reboxetine has ability to improve diabetic neuropathic pain at doses of 8 and 16 mg/kg, comparable to reference drug pregabalin (10 mg/kg). However, underlying mechanisms have not been clarified, previously. Therefore, in this present study, we aimed to examine possible involvement of dopaminergic system to the beneficial effects of reboxetine against neuropathic pain in order to clarify mode of its anti-hyperalgesic action.

**Methods:** Male Sprague Dawley rats of the same age (250–300 g weight) were used for the experiments. Diabetes was induced by a single 50 mg/kg dose of *i.v.* streptozotocin administration. Reboxetine treatment (8 mg/kg) was initiated 4 weeks after the induction of diabetes to develop nociceptive perception deficits in rats. Mechanical hyperalgesia was assessed by Randall-Selitto and thermal hyperalgesia by Hargreave's test. Potential contribution of the dopaminergic system to the pharmacological effect of the reboxetine were conducted using SCH 23390 (a dopamine D<sub>1</sub> receptor antagonist, 500 µg/kg, *i.p.*) and sulpiride (a dopamine D<sub>2</sub>/D<sub>3</sub> receptor antagonist, 30 mg/kg, *i.p.*), respectively. Further, motor coordination of the animals was evaluated by Rota-rod tests. The experimental protocol was approved by the Osmangazi University Animal Experiments Local Ethics Committee.

**Results:** Subacute reboxetine treatment induced significant increases in the paw-withdrawal thresholds and reaction time of diabetic rats in the Randall Selitto and Hargreave's tests, respectively. The exhibited anti-hyperalgesic activities of this drug against mechanical and thermal nociceptive stimulus were reversed not only by SCH-23390, but also by sulpiride administrations. These results suggest that D<sub>1</sub> and D<sub>2</sub>/D<sub>3</sub> dopaminergic receptor subtypes are involved in the anti-hyperalgesic activity of reboxetine.

**Conclusions:** Reboxetine has a potential of being a valuable treatment candidate in conditions which neuropathic pain and mood disorders are induced or accompanied by *Diabetes mellitus*.

### KEYWORDS

Diabetes mellitus; dopaminergic receptors; hyperalgesia; neuropathic pain; reboxetine



[Abstract:0387][Psychopharmacology]

## Atomoxetine: a potential agent for the treatment of diabetes induced mechanical and thermal allodynia

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### ABSTRACT

**Objective:** Diabetic neuropathy is one of the main complications of diabetes mellitus. Severe pains or cramps, burning or tingling sensation, loss of reflexes and motor coordination, hyperalgesia and allodynia are among the main symptoms of neuropathic pain. Allodynia, one of the frequently observed conditions in patients with peripheral diabetic neuropathy, can be defined as a painful sensation caused by an innocuous stimuli that does not normally aggravate pain. It may be caused by either physical or thermal stimuli; defined as “mechanical allodynia” or “thermal allodynia,” respectively. Atomoxetine, a selective noradrenaline reuptake inhibitor, is prescribed for the treatment of attention-deficit hyperactivity disorder in many countries. Augmentation of monoamine levels in the synapses of supra-spinal pathways are known to suppress the pain processing. Therefore, drugs such as selective serotonin reuptake inhibitors, selective noradrenaline reuptake inhibitors or dual reuptake inhibitors may have potential to treat neuropathic pain symptoms. Accordingly, in the present study, we aimed to examine therapeutic potential of atomoxetine on mechanical and thermal allodynia induced by diabetic neuropathy.

**Methods:** Male Sprague-Dawley rats, 250–300 g, were used for the tests. Diabetes was induced by a single *i.v.* injection of streptozotocin (STZ, 50 mg/kg). After 4-weeks, atomoxetine (50 mg/kg/day, *p.o.*) was administered to animals for 2-week treatment period. Fasting blood glucose levels of animals were measured in the tail vein blood, using the Glukotrend® device. Mechanical and thermal allodynia were assessed by using the Dynamic plantar and warm-plate tests, respectively. The experimental protocol of this study was approved by the Anadolu University Animal Experiments Local Ethics Committee.

**Results:** Blood glucose levels of diabetic rats were significantly increased after the injection of STZ, as expected. Subacute administration of atomoxetine caused significant decrease in the high blood glucose levels of diabetic animals. Further, paw-withdrawal thresholds and reaction times of the diabetic rats assessed in the Dynamic plantar and warm-plate tests were lower than that of the normoglycemic control animals. Atomoxetine administrations significantly enhanced these reduced values.

**Conclusions:** Obtained results indicated that subacute atomoxetine treatment improved the diabetes induced hyperglycemia as well as mechanical- and thermal-allodynia responses of diabetic rats. If the results of this preclinical study can be confirmed by well-designed clinical studies, atomoxetine may become a good alternative for the treatment of patients with diabetic allodynia.

### KEYWORDS

Atomoxetine; diabetes mellitus; mechanical allodynia; neuropathic pain; thermal allodynia

[Abstract:0389][Schizophrenia and other psychotic disorders]

## Relationship between eye color and schizophrenia

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### ABSTRACT

**Objective:** Dopamine, which plays a role in the etiology of schizophrenia, is synthesized from the amino acid tyrosine. Tyrosine is also involved in the synthesis of melanin, thyroid hormone, norepinephrine and epinephrine in the body. One of these is melanin, a pigment formed by the enzyme tyrosinase from tyrosine. Eye color depends on melanin pigment synthesized from iris cells. Melanin also contributes to the formation of skin and hair color. It has also been reported that chlorpromazine can affect tyrosinase enzyme activity and lead to iris color changes.

### KEYWORDS

Schizophrenia; iris; color; melanin; dopamine

This information assumes that there may be a relationship between the dopamine system and melanin synthesis, and there is no comprehensive research on this topic. In this study, we aimed to examine the relationship between light color (blue, green, hazel) eye color and schizophrenia.

**Methods:** The eye color of 174 patients who were presented to the Pamukkale University Psychiatric Hospital's Psychotic Disorders Outpatient Clinic between the dates of January 1st, 2017 and January 1st, 2018 was evaluated by at least two observers and iris color was classified in 5 different categories (black, brown, hazel, green, and blue). The diagnosis of patients were evaluated by the use of DSM-5. The age, gender, diagnosis (schizophrenia, schizoaffective disorder), and eye color grading were statistically evaluated.

**Results:** During the specified period, 174 patients with schizophrenia and schizoaffective disorder were admitted. The mean age of cases was determined as 42.41 ( $\pm 13.58$ ). The most common diagnosis is schizophrenia, which is 71.3% ( $n = 124$ ). 28% ( $n = 50$ ) of cases were diagnosed with schizoaffective disorder. 51.1% ( $n = 89$ ) of cases were male, 48.9% ( $n = 85$ ) of cases were female. Of the 174 patients included in the study, 6.9% ( $n = 12$ ) of eyes were black, 71.8% ( $n = 125$ ) were brown, 9.8% ( $n = 17$ ) were green, and 2.3% ( $n = 4$ ) were blue.

**Conclusions:** In a study examining the relationship between iris color and structure and schizophrenia, it was reported that there are minor physical differences in iris structure in schizophrenia-diagnosed individuals. There were fewer open eye colors in individuals diagnosed with schizophrenia included in recent study. However, minor physical abnormalities thought to be associated with schizophrenia were found to be more prevalent in individuals with light eye color. In our study, findings consistent with the literature were obtained. In order to be able to verify the data obtained in our work, we need to replicate our findings in larger samples. The fact that the effects of drugs on patients with iris are not assessed are among the limitations of our study. It is important to point out that schizophrenia is a complex spectrum of conditions and is associated with many differences throughout the brain. It can be difficult to make specific links in brain areas and the symptoms that are often observed.

[Abstract:0392][Mood disorders]

## PDW and RDW are new parameters for bipolar subtypes and unipolar depression

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### ABSTRACT

**Introduction:** Although bipolar disorder and unipolar depression are complex and multifactorial mental disorders are characterized by mood swings, disability, and impaired quality of life, pathophysiologies of both disorders are not fully understood and without an adequate biological explanation. In this context, interest in the etiology of these disorders has been increasing.

**Methods:** Between January 2016 and January 2017, in our study, a 69 patients with manic episodes of bipolar disorder, 60 patients euthymic episodes of bipolar disorder, 70 patients with unipolar depression, and 60 gender-matched healthy volunteers (control group) were retrospectively analyzed. PDW, RDW, and platelets levels were measured in four groups.

**Results:** In our study, 199 patients and 60 control group were included. There were no differences between the patients and the healthy control group participants in terms of age and gender. Bipolar subtypes and unipolar depression patient group were statistically significantly different from the healthy controls on RDW, PLT, and PDW.

**Conclusions:** To the best of our knowledge, this is the first study in the literature in terms of comparing the measure of blood PDW, RDW, and platelet levels in bipolar subtypes, unipolar depression, and healthy control groups. We believe that levels of PDW, RDW, and platelet can be used as a novel marker for bipolar subtypes and unipolar depression. With it, advanced, detailed, and larger prospective clinical studies are required to confirm these findings.

### KEYWORDS

Bipolar disorder; depression; inflammation; red cell distribution width; platelet number; platelet distribution width

[Abstract:0394][Psychosomatic Medicine and Liaison Psychiatry]

## The relationship between psychological symptoms, attachment, resilience traits, and treatment outcomes in women undergone in vitro fertilization (ivf) treatment

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#### ABSTRACT

**Objective:** In this study, we aimed to examine the relationship between psychological symptoms, attachment, resilience traits, and treatment outcomes in women who underwent In Vitro Fertilization (IVF) treatment.

**Methods:** Among the women who were presented for IVF treatment to Kocaeli University School of Medicine, Center for Assisted Reproductive Techniques between February 2017 and August 2017, 88 women selected by purposeful sampling method were recruited for the study. A Sociodemographic Data Form, Brief Symptom Inventory (BSI), Fertility Problem Inventory (FPI), Experiences in Close Relationships (ECR) and The Resilience in Midlife Scale (RMC) were administered to the participants.

**Results:** According to the findings obtained from our study; anxiety, depression and somatization subscale scores of Brief Symptom Inventory did not differ according to IVF treatment result ( $p > 0.05$ ). The Global Stress points related to infertility did not differ according to the IVF treatment result ( $p > 0.05$ ). Rejection of Childfree Lifestyle subscale scores of the Fertility Problem Inventory differed according to the IVF treatment outcome ( $p < 0.05$ ). The Total score of The Resilience in Midlife Scale, attachment anxiety and attachment avoidance scores did not differ according to IVF treatment outcome ( $p > 0.05$ ). Correlation analysis revealed that there is a significant relationship between need for parenthood subscale score of FPI and attachment anxiety ( $p = 0.001$ ); and also a relationship between relationship concern subscale of FPI and family/social network subscale of RMS ( $p = 0.001$ ).

**Conclusions:** According to the results of our study, the outcome of IVF treatment is not closely related to psychological factors such as depression, anxiety, resilience, or attachment. But attachment and resilience seems to be important factors when taking fertility related stress into consideration.

#### KEYWORDS

Infertility treatment; depression; anxiety; somatization; resilience; attachment

[Abstract:0396][Personality disorders]

## Effect of borderline personality patterns on severity of depression and treatment duration for in-patients treated for depressive disorder diseases: a preliminary study

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#### ABSTRACT

**Objective:** Borderline personality disorder (BPD) is a psychiatric disorder beginning in early adulthood with clear changes in impulse control, interpersonal relationships, self-perception, and mood. There is no unique definition of BPD for children and adolescents. In spite of the general acceptance that the roots of personality disorders are found in the childhood and adolescent periods, diagnosis of BPD before 18 years of age is controversial. BPD is the most common Axis II disorder observed in psychiatric patients treated in hospital. This study aimed to compare adolescents treated as in-patients with depressive disorder (DD) and BPD patterns with adolescent patients with DD without personality pathology symptoms in terms of severity of depressive symptoms and length of hospital stay.

**Methods:** This study was completed by retrospectively screening the files of depressive disorder patients treated as in-patients in our ward from 2015 to 2017. The study included 19 patients with DD + BPD patterns (17 female, 2 male) and 26 DD patients with no other personality pathology pattern (24 female, 2 male). DD diagnosis was placed in clinical interviews based on DSM-5 and the Beck Depression Inventory (BDI) scores of patients were recorded. All patients were administered the Minnesota Multiphasic Personality Inventory (MMPI).

**Results:** The mean age of patients with DD + BPD was 15.5 years, with the mean age of patients with DD 16.0 years. There was no significant difference between the two groups in terms of age ( $p = 0.63$ ). The mean score for the BDI was 30.0 for patients with DD + BPD, while it was 23.7 for DD patients. The BDI points for DD + BPD patients were significantly higher compared to DD patients ( $p = 0.026$ ). The duration of hospital stay was 13.7 days for DD + BPD patients, while it was 26.62 days for DD patients. The hospital stay of DD patients was significantly longer than patients with

#### KEYWORDS

Adolescent; major depression; borderline personality disorder; severity of depression; treatment

DD + BPD ( $p = 0.014$ ).

**Conclusions:** Among BPD patients depressive disorders are the most common accompanying diagnosis, with history of major depression among 41 to 83% of patients. Studies have identified higher severity of depression among BPD patients compared to patients with diagnosis of depression alone. Similarly in our study, depression accompanied by BPD increased the severity of depression. Due to risky behavior like suicide risk, endangering themselves and injuring themselves or those around them, children and adolescents with BPD commonly require acute in-patient treatment. In-patient treatment aims to prevent behavior that injures themselves or those around them and to end the crisis. It is reported that depression patients with BPD have a tendency to have shorter durations for hospital stays. In our study, in accordance with the literature, depression patients with BPD were observed to have shorter hospital stays compared to depression patients without BPD. To change the direction of the disorder cycle among adolescents with BPD, they require early diagnosis and intervention to reduce long-term negative results of BPD like bad psychosocial functioning and high morbidity and mortality. As a result, we believe increasing the awareness about adolescent BPD patterns would provide significant benefits to clinicians and patients.

[Abstract:0404][Addiction]

## Evaluation of eating attitude in adolescents with obsessive-compulsive disorder

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### ABSTRACT

**Objective:** It is known that there are common points between Eating Disorders (ED) and Obsessive-Compulsive Disorder (OCD) in terms of etiological, biological, clinical and therapeutic approach. The majority of these studies examining the relationship between OCD and ED were conducted on adult patients. There is a limited number of studies on children and adolescents. The aim of the present study was to determine eating attitude in children and adolescents with obsessive compulsive disorder (OCD).

**Methods:** The sample was composed of 30 patients (aged 14–17 years) who met DSM-5 criteria for OCD and age-gender-matched 30 healthy controls. The assessment consisted of the Maudsley Obsessive Compulsive Inventory (MOCI), Eating Attitudes Test (EAT). The body mass index (BMI) was calculated as kilograms per meter squared.

**Results:** The mean age of OCD patients was  $15.20 \pm 1.09$  years while that of the control group was  $15.65 \pm 1.16$  ( $p = 0.119$ ). There was no statistically significant difference between the two groups in terms of age, gender and BMI ( $p > 0.05$ ). Although the EAT score was higher in the patient group compared to the control group, there was no significant difference between the two groups ( $p > 0.05$ ). A score above the EAT cut-off value of 30 suggesting a disordered eating attitude was higher in the adolescents with OCD, compared to the control group. There was a statistically significant difference among groups in terms of EAT cut-off scores ( $p = 0.02$ ). The EAT scores had a significant positive correlation with the MOCI checking, cleaning, doubting, rumination and total subscales scores.

**Conclusions:** This study determined that the adolescents with OCD compared to the control group had higher disordered eating attitude (above the EAT cut-off value of 30), although the mean EAT score was no significant difference between the two groups. Also, it was showed that had the relationship between eating attitude and MOCI obsessive-compulsive symptoms subscale in adolescents with OCD. It is thought that it is important to questioning the eating behaviors of adolescents with OCD.

### KEYWORDS

Adolescents; children; eating attitude; eating disorder; obsessive-compulsive disorder

[Abstract:0409][Psychosomatic Medicine and Liaison Psychiatry]

## Investigation of the psychiatric disorders with thyroid dysfunctions

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**ABSTRACT**

**Background:** Thyroid hormones have very important effect on human brain function and behavior. Therefore, thyroid diseases are often associated with many psychiatric disorders. Detailed thyroid assessment is quite important for assessing underlying clinical and subclinical thyroid disturbances linked to a variety of psychiatric disorders, such as mood disorders, anxiety, depression, insomnia, and restlessness.

**Methods:** Diagnosis of the all thyroid dysfunctions in present study was defined histopathologically by the pathologist. Depression and anxiety symptoms were assessed by using the Beck Depression Inventory (BDI) and Beck anxiety inventory (BAI).

**Results:** The study population consisted of 277 patients, fulfilled the inclusion criteria. 148 patients were female (53.4%) and 129 patients were male (46.6%). The 74.4% (206) of the subjects were married, 13.0% (36) were divorced while 12.6% (35) were single. The Mean  $\pm$  SD ages of the all participants were  $45.17 \pm 10.84$ . Evaluation of the family history of thyroid disorder revealed that, majority of the subjects (i.e., 48.7% (135)) had positive family history. On the other hand, approximately 47.3% (131) of patients did not have positive family history of any psychiatric disorder. In terms of thyroid hormone levels; 19.5% ( $n=54$ ; 16 males, 38 females) had hypothyroidism, 13.7% ( $n=38$ ; 17 males, 21 females) had subclinical hypothyroidism, 25.3% ( $n=70$ ; 36 males, 34 females) had hyperthyroidism, 19.5% ( $n=54$ ; 22 male, 32 females) had subclinical hyperthyroidism and 22.0% ( $n=61$ ; 38 males, 23 females) had euthyroid condition. The rate of the male patients in the euthyroid condition was significantly higher than in other groups ( $x^2=13.74$ ,  $p=0.008$ ). Most frequent morphological diagnoses were diffuse nodular goitre. There were 35.7% (99) patients with multinodular goiter (MNG), 4.7% (13) were follicular adenoma (FA), 3.2% (9) were hyperplasia, 7.6% (21) were FA with hyperplasia, 48.7% (135) were thyroiditis including the 15.2% (42) subacute lymphocytic thyroiditis (SLT), 24.2% (62) Hashimoto thyroiditis, 9.0% (25) subacute granulomatous thyroiditis (De Quervain). There were significant difference among the diagnosis of pathology in terms of age, gender, and psychiatric diagnosis ( $p<0.05$ ). According to BDI scores, 20.2% (56) individuals see themselves as free of depressive symptoms. Higher total scores of BDI indicate a higher level of depressive symptoms. Multiple logistic regression analysis revealed an association between total scores of BDI and hypothyroidism, as well as total scores of BAI and hyperthyroidism (OR: 3.0, 95% CI: 1.3–6.8; OR: 3.4, 95% CI: 2.2–7.9, respectively). Psychiatric presentations may be often the first manifestation of thyroid disorders. The potent effect of thyroid hormones on mental health functions has been shown, also in several studies (Bauer et al., 1990). Indeed, little changes in thyroid hormone levels may have been significant effects over the mental health (Hendrick, 1998). Psychiatric disorders can be responsible for a broad range of thyroid function test abnormalities that may be confusing in the assessment of thyroid function.


**Conclusions:** As a result, thyroid function tests should be routinely checked in psychiatric patients. Also, future studies assessing the usefulness of newer generation TSH assays in comparison to TRH testing for the diagnosis of psychiatric disorders are needed.

**KEYWORDS**

Thyroid disorders; hyperthyroidism; hypothyroidism; psychiatric disorders; comorbidity

[Abstract:0431][PTSD]

## Post-traumatic stress disorders in female trauma victims in an outpatient sample from Turkey

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**ABSTRACT**

**Objective:** In this study, we aimed to examine the relationship between traumatic experiences and post-traumatic stress disorder (PTSD) and evaluate the overt or unknown childhood trauma history in female outpatients with different psychiatric diagnosis.

**Methods:** This study group composed of 100 female patients with a history of traumatic experiences who were presented to the Health Sciences University Bagcilar Research and Training Hospital's Outpatient Clinic. Semi-structured sociodemographic and clinical data form, Structured Clinical Interview for DSM-IV Axis I disorders (SCID-I), Clinician-Administered Posttraumatic Disorder Scale (CAPS) and Childhood Trauma Questionnaire (CTQ-28) were

**KEYWORDS**

Traumatic experiences; post-traumatic stress disorder; childhood trauma; psychiatric disorders; risk factors



administered to the participants. According to the clinical interviews and results of CAPS, the participants were divided into two subgroups as with or without the diagnosis of current PTSD. All statistical analyses were performed using SPSS for Windows, version 23.0.

**Results:** The CTQ total scores ( $U = 233.000$ ,  $z = -6.856$ ,  $p = 0.000$ ) and also Emotional Abuse ( $U = 235.000$ ,  $z = -6.941$ ,  $p = 0.000$ ), Physical Abuse ( $U = 185.000$ ,  $z = -7.424$ ,  $p = 0.000$ ), Emotional Neglect ( $U = 244.000$ ,  $z = -6.851$ ,  $p = 0.000$ ), Physical Neglect ( $U = 208.000$ ,  $z = -7.276$ ,  $p = 0.000$ ) and Sexual Abuse ( $U = 266.000$ ,  $z = -7.554$ ,  $p = 0.000$ ) subscale scores were significantly higher in the PTSD present group.

A statistically significant association was found between CAPS Total scores and Emotional Abuse ( $r = 0.870$ ,  $p < 0.01$ ), Physical Abuse ( $r = 0.879$ ,  $p < 0.01$ ), Emotional Neglect ( $r = 0.862$ ,  $p < 0.01$ ), Physical Neglect ( $r = 0.884$ ,  $p < 0.01$ ) and Sexual Abuse ( $r = 0.886$ ,  $p < 0.01$ ) subscale scores, and CTQ Total ( $r = 0.906$ ,  $p < 0.01$ ) scores. The regression analysis has indicated that CTQ Sexual Abuse scores were significant predictors of CAPS Total scores ( $p = 0.00$ ) in patients with traumatic experiences when age was controlled.


**Conclusions:** In addition to the sociodemographic risk factors, traumatic experiences of childhood are an important risk factors for PTSD. Man-made traumas such as rape, assault have a higher risk and symptom severity than natural disasters and traffic accidents for PTSD. Our results suggested a strong association between childhood sexual trauma and post-traumatic stress disorder.

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[Abstract:0432] [Psychosomatic Medicine and Liaison Psychiatry]

## Temperament and character personality profiles in chronic pain disorder patients

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### ABSTRACT

**Objective:** The etiology of chronic pain and how well the various temperament and character dimensions fit in terms of understanding the complex relationship between pain and personality are still largely unknown. In this study, we aimed to examine the clinical features and personality traits of patients with Chronic Pain Disorder (CPD). We hypothesized that Harm Avoidance scores would be higher and predictive of CPD compared to the normative sample. We also hypothesized that Self Directedness scores would be lower in CPD patients.

**Methods:** This study sample was composed of 60 CPD outpatients (31 women, 29 men) who were presented to the Bezmi Alem Vakif University Hospital's Pain Clinic with chronic pain for at least 3 months and not currently under any medical treatments. 8 participants failed on the validity item of the Turkish TCI and remaining 52 participants (25 women, 27 men) were included in data analysis. Patients had no history of any psychotic disorders and were free of any medical and neurological illnesses. Sociodemographic data form, Visual Analog Scale (VAS) for pain, Temperament and Character Inventory (TCI), Beck Depression Inventory (BDI), and the Beck Anxiety Inventory (BAI) were administered to the participants. All statistical analyses were performed using SPSS for Windows, Version 23.0

**Results:** Novelty Seeking and its subscales of Impulsiveness Novelty Seeking except for Disorderliness and Total scores were significantly higher in CPD patients compared to the Turkish normative data ( $p < 0.01$ ). Harm Avoidance and its subscales of Fear of uncertainty and Fatigability scores were significantly higher in CPD patients compared to the Turkish normative data ( $p < 0.01$ ). Harm Avoidance and its subscales of Fear of uncertainty and Fatigability scores were significantly higher in CPD patients compared to the Turkish normative data ( $p < 0.01$ ). Self Directedness and its subscales of Responsibility, Purposefulness, Resourcefulness, and Congruent Second Nature scores were significantly lower in CPD patients compared to the Turkish normative data ( $p < 0.01$ ). Harm Avoidance

### KEYWORDS

Chronic Pain Disorder; temperament and character inventory; personality; harm avoidance; pain

and its subscales of Anticipatory worry, Shyness with strangers, and Fatigability scores were significantly positively correlated with the BDI, BAI scores. When VAS scores were entered as the dependent variable and age and gender were controlled in regression analysis, Harm Avoidance was not significantly predictive of VAS scores ( $p > 0.05$ ).

**Conclusions:** Temperament and character traits of the CPD patients were significantly different from the normative sample. HA scores were higher but not predictive of CPD in patients with chronic pain disorder.

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[Abstract:0437][Anxiety disorders]

## Temperament and character dimensions of personality in social anxiety disorder with and without comorbid major depressive disorder

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### ABSTRACT

**Objective:** It has been proposed that there is a dynamic and reciprocal interaction between social anxiety symptoms and depressive states, while broad temperamental vulnerabilities and character dimensions are presumed to be involved in this interaction. The current study aimed to determine the associations between the dimensional personality traits and clinical features of social anxiety disorder (SAD) with and without comorbid major depressive disorder (MDD).

**Methods:** Randomly selected treatment-naïve 50 patients (25 male, 25 female) who were presented to the Bagcilar Research and Training Hospital's Psychiatry Outpatient Clinic and diagnosed with SAD according to the DSM-5 criteria, and 50 healthy control subjects (25 male, 25 female) were included in the study. Sociodemographic information was obtained using a semi-structured form and the Structured Clinical Interview for DSM-IV axis I disorders (SCID-I) was administered to the patients to identify the comorbidity of MDD. The Turkish version of the Temperament and Character Inventory (Turkish TCI) was administered to the participants. The Liebowitz Social Anxiety Scale (LSAS), Beck Depression Inventory (BDI), and Beck Anxiety Inventory (BAI) were used to evaluate the severity of the anxiety and depressive symptoms. All statistical analyses were performed using SPSS Version 23.0 for Windows.

**Results:** Harm Avoidance and its subscales of Anticipatory worry, Fear of uncertainty, Shyness with strangers, and Fatigability and asthenia scores were significantly higher in patients with suicide attempt group compared to the healthy controls. Patients with SAD also exhibited significantly lower scores of Novelty Seeking, Reward Dependence, Persistence, Cooperativeness, and Self-Directedness compared to the control group. When MDD is comorbid with SAD, the differences were more prominent in terms of Harm Avoidance and Self-Directedness scores. The regression analysis has indicated that Harm Avoidance and Self-Directedness scores were significant predictors of the LSAS total scores ( $p = 0.000$ ) in patients with SAD when age and gender were controlled.

**Conclusions:** Our findings that Harm Avoidance and Self-Directedness were closely associated with social anxiety symptoms indicated that particular temperament and character traits of the SAD patients would significantly differ from the healthy controls. Greater variations in certain dimensions of the temperament and character, such as Harm Avoidance and Self-Directedness, would indicate vulnerability and be predictive for the development of SAD.

### KEYWORDS

Harm avoidance; major depressive disorder; personality; social anxiety; temperament and character inventory

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[Abstract:0438][Other]

## Temperament and Character Dimensions of Personality and Psychiatric Comorbidity in Patients with Suicide Attempt

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### ABSTRACT

**Objective:** Suicidality is an individual behavior caused by internal and external factors and has become a very important public health problem in recent years. It is known that a complex relationship is present between suicidal behavior and personality. In this study, we aimed to compare the temperament and character profiles of the suicide attempters compared with a healthy control group by considering the influence of demographic factors and psychiatric comorbidities.

**Methods:** This study group is composed of 50 patients (39 women, 11 men) who were presented to the Bezmi Alem Vakif University Research and Training Hospital's Emergency Unit with a suicide attempt. 50 (34 women, 16 men) age- and gender-matched healthy controls who did not have any psychiatric disorders and history of suicide attempts were included as a control group. Semi-structured sociodemographic data form, Structured Clinical Interview for DSM-IV Axis I Disorder (SCID-I), and Temperament and Character Inventory (TCI) were administered to the participants. All statistical analyses were performed using SPSS for Windows, Version 23.0.

**Results:** Exploratory excitability, Impulsiveness, Extravagance, and Disorderliness subscales of Novelty Seeking; Harm Avoidance and its subscales of Anticipatory worry, Fear of uncertainty, Shyness with strangers, and Fatigability and asthenia scores were significantly higher in patients with suicide attempt group compared to the healthy controls. Reward Dependence and Persistence scores were significantly lower in patients with suicide attempt group compared to the healthy controls. Consistent with our study hypothesis, Self-Directedness scores were significantly lower among the participants with suicide attempts.

**Conclusions:** Temperament and character traits of the suicide attempters were significantly different from the healthy control subjects. New psychotherapeutic modalities considering personality traits of suicidal patients would have preventative effect on suicide.

### KEYWORDS

Suicide; temperament and character inventory; personality; personality disorders; psychiatric disorders

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[Abstract:0454][Schizophrenia and other psychotic disorders]

## The burden of schizophrenia on caregivers

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### ABSTRACT

**Objective:** People with schizophrenia often need personal support and care in terms of their own health and safety. This ongoing care affects the health of the caregiver, causing them to be more physically and mentally exposed to various diseases. In this study, we aimed to examine the emotional burden level of family members who care for schizophrenic patients.

**Methods:** It is a descriptive and cross-sectional study. All family caregivers of schizophrenia

### KEYWORDS

Caregiver; family; psychiatry; quality of life; schizophrenia

patients who came to polyclinics during the specified period were invited. The Participatory Caregiver Burden Scale, which was verified and informed by researchers for these persons, was administered.

**Results:** 100 caregivers were recruited to work; 68% (68/100) were females and 54% (54/100) were females. We found that the vast majority of caregivers had emotional care giving burdens (69%, 69/100), especially low-level burdens (66.67%, 46/69). Emotional care burden was frequent among caregivers (93.75%, 15/16), fathers (94.11%, 16/17), and nonparticipants (80.00%, 8/10).

**Conclusions:** The burden of care for the family members was quite large. The results show that there is a need for interventions that allow identification and control of this problem, especially focusing on partners, parents, and less-educated caregivers.

[Abstract:0459][Cultural psychiatry]

## Mental health of Turkish immigrants living in Germany

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### ABSTRACT

**Objective:** Mental health can be influenced by several factors such as personal predisposition and social factors, including migration. This study aimed to identify if there is a difference between the Turks living in Turkey and the Turkish immigrants in Germany regarding the social phobia susceptibility. It is hypothesized that the Turkish Migrants would score higher on the subscales avoidance and anxiety level of the Liebowitz Social Anxiety Scale LSAS compared to the other group.

**Methods:** For this study, 120 people were recruited through social networks such as the Facebook official website of the Psychiatry department of the Harran University. In this experiment, participants fill out a questionnaire on sociodemographic properties and score on LSAS.

**Results:** The results of this data displayed a non-significant outcome on subscales, social anxiety ( $t(n) = 1.15, p = 0.25$ ) and social avoidance ( $t(n) = 1.67, p = 0.1$ ).

**Conclusions:** This research investment displayed that living in different countries might not necessarily cause social anxiety susceptibility.

### KEYWORDS

Cross-cultural psychiatry; Germany; social anxiety; social avoidance; Turkish immigrants

[Abstract:0460][ADHD]

## Attention deficit and hyperactivity disorder in patients attending remedial treatment due to substance use disorder in Adiyaman Research and Training Hospital

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### ABSTRACT

**Objective:** Substance use disorder (SUD) is a serious public health problem. Attention-deficit/hyperactivity disorder (ADHD) is also a disorder associated with the onset and prognosis of the SUD. This study was conducted to determine the prevalence of ADHD in patients who remotely consulted for SUD.

**Methods:** The frequency of ADHD according to ICD-10 diagnostic criteria of 231 drug addicted patients admitted to Adiyaman Research and Training Hospital between 2015 and 2017 was examined.

**Results:** It was observed that 75.33% of the patients showed psychiatric comorbidity. In general, 32.47% of all SUD patients had a diagnosis of ADHD according to ICD-10 diagnostic criteria.

**Conclusions:** ADHD was present in 3 out of every 10 people with an ISE. The primary analysis of

### KEYWORDS

Addiction; attention deficit hyperactivity disorder; comorbidity; psychiatry; psychoactive substance

this study is a dependent relationship between the use of psychoactive substances and ADHD with co-diagnosis.

[Abstract:0461][Cultural psychiatry]

## Body image satisfaction of highly fertile women and infertile women: the impact of cultural influences

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### ABSTRACT

**Objective:** Involuntarily having no child has always been a social stigma and has caused emotional trauma and relationship strain. Body image is affected by infertility. Several studies have revealed the emotional stress in Turkish infertile women and compared western and eastern societies' view of body image in infertile women, but a comparison between highly fertile and infertile females has never been made before. In this study, we aim to compare highly fertile women and infertile women's body image perception in Şanlıurfa, which is a city in eastern part of Turkey and is in high fertility rate region.

**Methods:** Sixty-seven infertile and 59 highly fertile (women having children more than 5) women were enrolled. Body Image Scale (BIS) were administered to both groups. Some of the sociodemographic information such as age, smoking status, and having a son or not were recorded as well.

**Results:** BIS scores were significantly higher in highly fertile including sexual power. Body image was not associated with having son or not. Infertile group is found to have less smoking rates than highly fertile group.

**Conclusions:** Body image is negatively affected by infertility and positively affected by highly fertility, especially in societies where having many children is appreciated.

### KEYWORDS

Body image; childlessness; depression; highly fertile women; infertility

[Abstract:0482][Mood disorders]

## Comparison of nitric oxide level in Behçet's disease patients with or without psychiatric comorbidity

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### ABSTRACT

**Objective:** Nitric oxide (NO) synthesized by endothelial cells plays a significant role in the beginning of immunological and inflammatory reactions. The studies demonstrate that major depression and Behçet's disease (BD) may be related with NO, with results showing that NO level may be increased. In this study, we examine whether there was a difference in NO levels among Behçet's patients with accompanying major depression (MD), Behçet's patients with no depressive symptoms and healthy control group.

**Methods:** 48 BD patients regularly followed up and 29 healthy volunteers without any disease were included in the study. BD patients included in the study were chosen among the patients who had no genital ulceration, uveitis, erythema nodosum, thrombophlebitis, arthritis or other acute systemic involvements in addition to oral apthae, were in remission and only took BD treatment for the last six months.

**Results:** There was no psychiatric comorbidity in 27 out of 48 BD patients, 21 patients (43.7%) had MD. There was a significant difference in NO levels among BD and control group and while

### KEYWORDS

Behçet's disease; comorbidity; major depressive disorder; nitric oxide; psychiatry



the average NO of BD patients was  $14.74 \pm 10.30$  mmol/L, it was  $9.31 \pm 6.37$  mmol/L for the control group ( $p = 0.017$ ). Also average NO in BD patients with MD was detected as  $23.53 \pm 9.14$  mmol/L and the level of NO in BD patients without psychiatric comorbidity was  $7.9 \pm 4.1$  and this was statistically significant ( $p < 0.005$ ). There was no significant difference among CRP and rheumatoid factor levels in BD patients with or without psychiatric comorbidity.

**Conclusions:** This study is interesting as it demonstrates that accompanying psychiatric comorbidity puts an additional inflammatory load on the shoulders of BD patients. In rheumatologic or immunological diseases where inflammatory phase plays a dominant role on etiopathogenesis, it is important for showing the predisposition to psychiatric disease with common biological markers and making us consider that accompanying psychiatric disease may exacerbate the present disease and also for leading the longitudinal studies on this subject.

[Abstract:0483][Mood disorders]

## Relationship between thyroid function disorder and severity of major depressive disorder

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### ABSTRACT

**Objective:** Major depressive disorder (MDD) is one of the most common psychiatric disorders. There is a strong possibility that the etiology of depression and the outcome of treatment may be related to thyroid status. This research aimed to examine the prevalence of thyroid dysfunction in patients with MDD. As a result of this study, the prevalence and correlation between thyroid dysfunction and MDD severity will be determined.

**Methods:** 420 patients over 18 years of age were included in the study. All cases were discussed for general history, disease history, age at onset, number of hospitalizations, and suicide attempts. MDB patients taken to work gave blood tests for thyroid functions at 8:00 am in order to avoid circadian rhythm after being hungry at night. Total T3, total T4 and TSH serum levels were determined. The normal ranges of the obtained hormones were accepted as follows: T3: 2–4.4 pg / ml; T4: 0.3–1.7 ng / dl; TSH: 0.27–4.2 microU / ml.

**Results:** A total of 420 patients (145.6%) were diagnosed as MDD (34.6%) and 275 were female (65.4%). Of the 420 patients studied, 93 (22.1%) had thyroid dysfunction and 18 had hyperthyroidism; 12 patients were subclinical hyperthyroidism; Inappropriate TSH release in 18 patients; 24 had subclinical hypothyroidism; 21 had secondary hypothyroidism. The results showed that there was no significant relationship between thyroid dysfunction and duration of depressive illness, HAM-D, referral frequency and suicide attempt frequency. When we examined each of these hormone levels by these factors, we found that the level of free T3 correlated negatively with the HAM-D scale ( $p = 0.022$ ).

**Conclusions:** Thyroid function disorder is a common comorbidity associated with major depressive disorder. Despite no correlation between any thyroid dysfunction and disease severity, free T3 levels correlated with the severity of a major depressive disorder. A prospective study to be made can contribute to our knowledge of this effect.

### KEYWORDS

Major depressive disorder; psychiatry; thyroid; thyroid dysfunction

[Abstract:0484][Eating disorders]

## Potential relationship between eating disorder and bipolar disorder: evaluation of women with polycystic ovary syndrome

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**ABSTRACT**

**Objective:** Polycystic ovarian syndrome (PCOS) is an endocrine disorder that affects one of every five prenatal females, with effects on the psychological, metabolic, and reproductive systems that have negative effects on physical and mental health. Hyperandrogenism is characterized by polycystic ovaries and oligomenorrhea or amenorrhea. Insulin resistance or hyperinsulinemia is common in women with PCOS, but is not always accompanied. Similarly, metabolic syndrome associated with overweight or obesity is more common in women with PCOS. Although there is very little research on the prevalence of bipolar disorder (BD) in women with PCOS, there is a consensus that the risk of BP development is higher.

**Methods:** It consists of 776 individuals who received treatment with PCOS diagnosis and meet the criteria for inclusion in the study. The interviews were conducted to assess the presence of BD and other psychiatric comorbidities such as depressive disorder, obsessive-compulsive disorder, social phobia, post-traumatic stress disorder, substance abuse, kleptomania, and trichotillomania, primarily eating disorders. All patients were evaluated by a gynecologist with physical examination, pelvic ultrasonography, and laboratory examinations. The data were evaluated using the SPSS 22.0 statistical package.

**Results:** As expected in a psychopathology generally occurring in adolescence, a tendency to the left of the age distribution was seen in the total sample (Shapiro-Wilk test  $z = 8.3, p = 0.000$ ). Thus, it is seen that 42.13% is under 18 years of age or less. Only 4.89% were over 32 years old. At the time of admission, 236 patients (30.41%) had nutrition labeling less than one year. 192 persons (24.74%) were between 1 and 3 years. 142 persons (18.29%) have been in the field for 3–5 years. 26.54% of the patients () had symptoms that lasted longer than five years. According to eating disorder, 333 had anorexia nervosa (42.91%), 360 had bulimia nervosa (46.40%), and 84 had binge eating disorder (10.69%). Bingeing or purges were present in 512 (66.98%) of the patients studied. The body mass index range was between 11.3 and 39.2 ( $M = 20.12, SD = 4.22$ ). 48.84% ( $n = 379$ ) were normal weight and 13.78% ( $n = 107$ ) were obese under 37.37% ( $n = 290$ ) of normal weight.

**Conclusions:** As a result, it is concluded that the presence of PCOS is common in patients with eating disorders and should be systematically examined. PCOS is predominant in patients with eating disorders with bulimic subtypes and being overweight or obese or overweight. Type II BP prevalence and impulsive symptoms are significantly larger in patients with PCOS, and this leads to a more complex treatment scenario to deal with. In these patients, a comprehensive approach is needed to control the metabolic, digestive system and affective symptoms that need to be addressed at the same time in order to better respond to treatment.

**KEYWORDS**

Anorexia nervosa; bulimia nervosa; eating disorder; polycystic ovary syndrome; psychiatry

[Abstract:0499][Autism]

## The predictive measures in childhood for clinical outcome of autism spectrum disorders (ASD)

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**ABSTRACT**

**Objective:** In literature, studies have focused on predictive factors with regard to change and stability of diagnosis, comorbid psychiatric disorders, and functionality in children with Autism Spectrum Disorder (ASD). We examined predictors of outcome after 3 year clinical observation, special education and psychiatric treatment in clinical-based group.

**Methods:** The study was carried in Ondokuz Mayıs University Samsun, in the years 2013–2016 with naturalistic design. The study group comprised 433 children (mean age:  $72.3 \pm 45.9$  months) with ASD diagnosis. ASD and comorbid psychiatric diagnosis are assessed and treatment planned by child psychiatry specialist and residents. Caregivers filled sociodemographic and rehabilitation information form. ASD symptoms were assessed by child psychiatrist using the Autism Behavior Checklist, Aberrant Behavior Checklist, Clinical Global Impression scales at baseline and 12th, 24th, and 36th months

**Results:** A significant proportion of the cases of the study group (approximately 3/4th of group) showed improvement in ASD symptoms. Regression analysis showed that in 12. month

**KEYWORDS**

Autism spectrum disorders; outcome; comorbidity; childhood; predictive measures

improvement in ASD symptoms predicted by early age diagnosis, early start in ASD rehabilitation, mother educational state and comorbid Obsessive Compulsive Disorder diagnosis, later improvement predicted by ASD symptom severity and comorbid Bipolar Disorder diagnosis.

**Conclusions:** In accordance with other studies, we found early age diagnosis, early start rehabilitation and severity of ASD symptoms at baseline assessment predicted outcome. Also, we found that comorbid psychiatric diagnoses are (OCD, BD) affecting outcome of ASD symptoms in long-term clinical observation. The findings have significant clinical implications in terms of prognostic information and also planning treatment of children with ASD.

[Abstract:0515][Forensic Psychiatry]

## Evaluation of probation implementations of drug users in Adiyaman University Research and Training Hospital: a one-year retrospective study

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### ABSTRACT

**Objective:** Increasing the use of drugs all over the world and our country has become a very important social problem, making legal obligations necessary. Probation Implementation (PI) refers to the correction of the conduct of criminals causing criminal acts, the prevention of repeat offenses, the follow-up of prisoners, the rehabilitation of substance abusers, the elimination of the harm suffered by the victims, and the protection of the society in this way. In this study, it was aimed to examine the substance use characteristics of people who were presented to my hospital within the scope of PI law.

**Methods:** 313 cases, applying to Adiyaman University, Research and Training Hospital, all of whom were decided to have PI on 01.01.2017–31.12.2017 were included in the study. PI was carried out by having psychiatric interview and evaluating psychoactive substance in urine in three-week and six-week programs.

**Results:** It was determined that totally 313 cases presented as required by PI during the study. Of these cases, 298 were males and 15 were females. Mean age was determined as  $26.2 \pm 6.8$  (15–55). It was also observed that 251 cases (%80.2) completed three week program and 62 (%19.8) cases completed six week program. According to the number of programs, there was no significant difference in terms of gender distribution and ethyl glucuronide positivity in two groups ( $p < 0.05$ ).

**Conclusions:** Probation Implementation, which is a fairly new practice in Turkey, has an important place in the care of substance users. In terms of gender distribution, results were consistent with studies in the literature. Alcohol comorbidities in PI-applied individuals are noteworthy.

### KEYWORDS

Addiction; illicit drug detection; probation; retrospective study; substance use

[Abstract:0518][Mood disorders]

## Neuroinflammation and impairment of hippocampal neurogenesis underlies depressive-like behaviors of obese rats: Role of TNF-alpha inhibition

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**ABSTRACT**

**Objective:** Several studies have suggested that obesity is linked to an increased risk of depression. Accumulating evidence has also revealed that obesity is not only as a metabolic disorder but also as an inflammatory disease. Besides depressive patients have been reported to enhance proinflammatory cytokine levels as well as an activation of the inflammatory response. Additionally, depressive symptoms are associated with weight gain which both are responded by the activity of HPA axis. Cafeteria diet (CD) was used to generate a diet-induced obesity model as reported previously [2] and etanercept (ETN) showed beneficial effects on depressive-like behaviors in obese rats [1]. The aim of the current study was to examine the action of mechanism of TNF-alpha inhibition by ETN on obesity-induced depressive-like behavior of rats.

**Methods:** Male Wistar Albino rats (30 days after birth) were assigned into three groups ( $n = 8$  in each) as Control (fed on standard pelleted diet), Obese (fed on CD) and Obese + ETN (fed on CD and treated with ETN). CD was composed by a mixture of pate, bacon, chips, cookies, chocolate and chow with proportions of 2:1:1:1:1:1, respectively, and was given daily for 12 weeks. ETN was subcutaneously administered at a dose of 0.8 mg/kg/weekly and body weights were followed. At the end of 12 weeks forced swimming test was used to evaluate depressive-like behavior. Then brains were either fixed to assess brain derived neurotrophic factor (BDNF) expression immunohistochemically or frozen to determine TNF-alpha and IL-1beta levels with ELISA. A significant difference was determined using one-way ANOVA followed by Tukey's post hoc test. The immunoreactivity scores were compared by the Kruskal–Wallis followed by Dunn's multiple comparison test and  $p < 0.05$  was considered significant.

**Results:** Body weight of obese group was significantly higher than control and ETN treatment suppressed this increase ( $p < 0.0001$ ). Obese rats displayed more immobility than control group in forced swimming test ( $p < 0.05$ ), which was decreased in Obese + ETN group ( $p > 0.05$ ). Comparing to control rats, hippocampal BDNF levels were significantly lower in obese rats ( $p < 0.05$ ) and hippocampal TNF-alpha and IL-1beta levels were markedly elevated. ETN treatment restored hippocampal BDNF and proinflammatory cytokine levels in obese rats ( $p < 0.05$ ).

**Conclusions:** The data strongly suggest that ETN might have beneficial effects on depressive-like behavior in obese rats, indicating the inhibition of proinflammatory cytokine production by maintaining neurogenesis which plays an important role at least a part. Therefore antiinflammatory therapy could be considered as a new therapeutic approach in obesity-induced depression.

**KEYWORDS**

Depression; etanercept; neuroinflammation; obesity; rat

[Abstract:0519][Psychopharmacology]

## Effect of agmatine on early maternal separation stress model in rats: a neurodevelopmental approach

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**ABSTRACT**

**Objective:** Early adverse life events and exposure to early stress are associated with psychiatric disorders, including depression. Maternal separation is an animal model of early life stress which is linked to neurological, behavioral, chemical, and endocrinological changes in the adult life of rats. Agmatine is considered as a neuromodulator in the brain that has been shown to have an important role in adaptation to stress as a potential neuronal self-protection mechanism. Increase in endogenous agmatine levels was found correlated with stressful conditions. Beneficial effects of agmatine against the deleterious effects of stress through glucocorticoids were also described. It has been shown that exogenously administered agmatine can increase hippocampal neurogenesis in chronically stressed mice and may have neuroprotective effect on stress-induced structural changes in the rat brain. Therefore, there are accumulated preclinical findings, indicating that agmatine may be an endogenous antidepressant molecule. In this study, we examined the behavioral basis of agmatine in maternally separated rats in order to examine its potential on neurodevelopmental theory of depression.

**Methods:** Rat pups were separated from their mother on their second postnatal day for 4 hours everyday for 21 days. After 4 hours, they were placed back to their home cage with their mother and litters. They allowed growing for a month and were grouped such as agmatine, imipramine

**KEYWORDS**

Agmatine; anxiety; depression; imipramine; maternal separation

and control group, which is matched with those with the same date of birth. Then they were given agmatine (40 mg/kg/day i.p.), imipramine (30 mg/kg/day i.p.), or saline for 15 days. Behavioural assessments such as forced swim test (FST) and sucrose preference tests were done to evaluate depressive-like behavior whereas anxiety-like behaviors evaluated by elevated plus maze (EPM) and open field test (OFT) immediately after treatment.

**Results:** Maternally separated rats developed reduced sucrose preference compared to control group as a determinant of anhedonia. Chronic agmatine (25 and 50 mg/kg) treatment ameliorated anhedonia-like behavior. The immobility time in FST was longer and locomotor activity was significantly suppressed in maternally separated group compared to control as a reflection of despair/depression-like behavior. Agmatine group had significantly shorter immobility time compared to maternally separated group. Anxiety-like behaviors in EPM and OFT significantly attenuated in maternally separated rats, which were reversed with agmatine treatment.

**Conclusions:** According to our results we suggested that maternal separation model of depression is a neurodevelopmental model related with anxiety and depression prevalence in adulthood. Additionally chronic agmatine treatment may have beneficial effects on neurodevelopmental stress conditions.

[Abstract:0526][Schizophrenia and other psychotic disorders]

## Retrospective case series study of patients with delusional disorder in a descriptive design

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### ABSTRACT

**Objective:** Delusional disorder (DD) is characterized by the presence of systematized delusions, with different contents, without prominent hallucinations, alterations in language or thinking, and no serious deterioration of the personality. The aim of this study is to present the results of a series of 174 diagnosed cases of DD from our clinical records with DSM criteria that will undoubtedly increase the knowledge of this pathology so poorly studied.

**Methods:** A total of 174 clinical histories of patients diagnosed and registered of DD according to ICD-9 in Department of Psychiatry in Adiyaman University during a 4-year period constituted our DD cases.

**Results:** The male/female ratio was 1.12:1. The age of consultation in our study was performed with a mean age of life 46.55% (SD = 15.54) years. The age at onset of DD was at 41.48 (SD = 12.67) years. Although the mean number of children was 1.74, the erotomaniac subtype was the least (0.77) and the jealousy subtype was the most (2.59). The results of Axis IV identified that the main problems described by the family or primary support group were the death of a family member (12.1%), family health problems (9.3%), and change of home (9.2%). Labor problems were present at 44.4% and unemployment at 26.8%. The economic problems present in one third (30.3%) of cases and 57.9% had psychosocial and environmental problems. Only 12.6% had a psychiatric family history up to a second degree. Personal psychiatric history was 23%, of which psychotic episodes (12.6%) were present in all clinical subtypes. A 17.6% presented antecedents of organic pathology. Sensory deficits such as deafness or premorbid blindness were present in 6.5%. Only 16.9% previously alcohol and only 2.3% other substances. The suicide attempt reached 10%. Stress episodes three months before the onset of DD were found in 26.4%.

**Conclusions:** Our study suggests the existence of a cultural tolerance, of varying duration in time, in the social and familiar area towards the patterns of clinical symptomatology that characterize the subtypes of DD, which delay the psychiatric care in them. Future prospective studies are needed that integrate homogeneous criteria to examine the risk factors of DD. Our results present limitations that make it difficult to generalize, so we recommend that the findings presented be interpreted with caution.

### KEYWORDS

Delusion; delusional disorder; descriptive; psychiatry; retrospective



[Abstract:0530][Stress and related situations]

## Effect of early maternal separation stress on ovarian reserve in rats

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### ABSTRACT

**Objective:** Stress causes to reveal the behavioral and physiological responses. The stresses during pregnancy and after the birth are related to many mental, behavioral and cognitive abnormalities. It has been reported that female reproductive system is very sensitive to stress and effect of stress on gonads in adults may be reversible but it may not be true during initial stages of development. Thus, stress experienced during neonatal or pre-pubertal phases might have serious side effects on the ovarian follicular development. Premature ovarian insufficiency occurs when primordial follicle pool of a female is depleted early in her reproductive life leading to the cease of menstrual cycle and fertility. The premature activation of primordial follicles and therefore their depletion can occur due to many reasons such as genetic background, diseases, drug use or exposure to harmful materials. The mammalian target of rapamycin (mTOR) signaling pathway uses both extracellular and intracellular signals and serves as a central regulator of cell metabolism, growth, proliferation and survival. In this study, we hypothesized that there might be a relationship between the premature depletion of ovarian reserve and mTOR in female rats by using early maternal separation model in rats.

**Methods:** In order to achieve early maternal separation stress model rat pups were separated from their mother on their second postnatal day for 4 hours everyday for 21 days. They were allowed to grow for 30 days. Control group pups were allowed to stay with their mothers and litters in their home cage. Elevated plus maze (EPM) and open field test (OFT) were used for behavioural assessments and immediately after rats were sacrificed and dissected. Ovaries were processed, embedded in paraffin and sectioned using microtome. The sections were then stained with hematoxylin and eosin staining for morphological analysis and imaged using light microscope. Afterwards, immunofluorescence staining was performed to determine the expression of mTOR and its phosphorylated form (p-mTOR) in rat ovaries from all groups. The localization of mTOR and p-mTOR proteins was demonstrated by confocal microscopy. One-way analysis of variance and Tukey's test were used for statistical analysis.

**Results:** Rats exposed to maternal separation developed anxiety-like behaviors significantly in EPM compared to control group ( $p < 0.05$ ). Activity in OFT was significantly suppressed in maternally-separated group compared to control as a reflection of despair/depression-like behavior ( $p < 0.05$ ). Morphological results presented that maternal separation may cause diminish of ovarian reserve with a few primordial follicle and increased corpus luteum number ( $p < 0.05$ ).

**Conclusions:** It can be suggested that in maternal separation induced depression model, early life stress caused diminished ovarian reserve. mTOR signal protein and p-mTOR might have correlation during preservation of ovarian follicle pool during depression.

### KEYWORDS

Anxiety; m-TOR; maternal separation; ovarian reserve; stress

[Abstract:0531][Stress and related situations]

## The emotional and behavioral problems among school age children of breast cancer patients

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### ABSTRACT

**Objective:** Having a parent with cancer may be a significant stressor to children. Being confronted with a life-threatening disease may cause a parent to experience emotional problems or become stressed, which may result in their having less attention for their

### KEYWORDS

Adolescent; breast cancer; children; emotional and behavioral problems; life

children. Between-group studies, where children and adolescents of parents with cancer have been compared with control groups or national norms, have produced mixed results. Some studies have shown that children and adolescents function in a similar way to, or even better than, other children. Others have found that children and adolescents, in particular female adolescents and latency-aged boys, show more emotional problems than healthy children groups. The aim of this study was to evaluate the emotional and behavioural problems among school-age children of breast cancer patients.

**Material and Methods:** The participants included 40 children and adolescents of the breast cancer patients and 40 healthy adolescents between the ages of 6 and 17. Reports of children's emotional and behavioural problems were obtained from patient mothers, their healthy partners, using the Strengths and Difficulties Questionnaire (SDQ). Also, the children and adolescents were asked to complete the sociodemographic form prepared by researchers and evaluated the effects of maternal cancer on children, role changes and information about the disease

**Results:** There was no statistically significant difference between the two groups in terms of age and gender ( $p > 0.05$ ). It was determined that compared to healthy controls, the conduct problem, hyperactivity scale, and total difficulties scores were higher and the emotional symptoms, peer problem, and prosocial scale scores were no statistically significant in children and adolescents of the breast cancer patients ( $p < 0.05$ ). There was positive correlation between the child's age and total difficulties scores of SDQ. Also, there was the age of mother and hyperactivity scale score of SDQ ( $p < 0.05$ ). There were several problems such as changes in family responsibilities and some life difficulties in the children and adolescents of breast cancer patients.

**Conclusions:** The results of this study showed that the conduct problem, hyperactivity scale, total difficulties scores were higher in children and adolescents of the breast cancer patients compared to healthy controls. Results of the current study may heighten awareness of healthcare providers that some children may have difficulty adapting to the parent's illness. Healthcare providers may assist parents in supporting their children in the overwhelming early stage of cancer and to be specifically sensitive to children at risk.

difficulties

[Abstract:0541][Anxiety disorders]

## Serum oxytocin and vasopressin levels in adolescent anxiety disorders and related factors

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### ABSTRACT

**Objective:** In this study, it was aimed to determine whether there is a difference in serum oxytocin and vasopressin levels among social anxiety disorder (SAD), other anxiety disorders (generalized anxiety disorder, separation anxiety disorder, panic disorder) and healthy controls in a group of adolescents. Secondly it was aimed to determine whether there is a relationship between several psychiatric variables (i.e., anxiety sensitivity, behavioral inhibition, state anxiety, trait anxiety, and social anxiety levels) and serum oxytocin or vasopressin levels.

**Methods:** The study included adolescents aged 12 to 18 years with SAD ( $n = 29$ ) and other anxiety disorders ( $n = 27$ ) diagnosis on the basis of DSM-5 criteria, who were seeking medical treatment for the first time at the child psychiatry outpatient unit, and control group ( $n = 28$ ). In order to determine other psychiatric symptoms of participants like depression, anxiety, anxiety sensitivity, and behavioral inhibition levels, participants and their parents filled out self-report scales. Serum oxytocin and vasopressin levels were determined from serum samples taken from participants.

**Results:** Serum oxytocin levels were significantly higher in SAD and other anxiety disorders group when compared to control group and serum oxytocin levels did not show significant difference between SAD group and other anxiety disorders group. Serum vasopressin levels did not show significant difference among the study groups. Factors predicting the oxytocin and vasopressin levels of the patients with any anxiety disorder determined using categorical regression (CATREG) analysis. According to the CATREG, while trait anxiety levels of the patients positively predicted their oxytocin levels, their state anxiety levels negatively predicted oxytocin levels when controlled for other factors (i.e. age, gender, depressive symptom, social anxiety, anxiety sensitivity, and behavioral inhibition). No predicting factor has been found for their vasopressin levels.

**Conclusions:** The high levels of serum oxytocin may be a neurobiological marker for adolescents

### KEYWORDS

Anxiety disorders; behavioral inhibition; oxytocin; social phobia; vasopressin

with anxiety disorders except for SAD. Additionally it is an interesting finding that oxytocin is negatively predicted by state anxiety; however, it is positively predicted by trait anxiety in adolescents with anxiety disorders. The causal relationship between oxytocin, vasopressin, and anxiety in adolescents disorders requires further investigation.

[Abstract:0556][Anxiety disorders]

## Effect of agmatine on behavioural changes in subchronic post-traumatic stress model in rats

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### ABSTRACT

**Objective:** The endurance of memories of emotionally arousing events serves the adaptive role of minimizing future exposure to danger and reinforcing rewarding behaviors. However, following a traumatic event, a subset of individuals suffers from persistent pathological symptoms such as those seen in post-traumatic stress disorder (PTSD). Despite the availability of pharmacological treatments and evidence-based cognitive behavioral therapy, a considerable number of PTSD patients do not respond to the treatment, or show partial remission and relapse of the symptoms. Agmatine, an endogenous polyamine widely distributed in mammalian brain, is a novel neurotransmitter/neuromodulator, with anti-stress, anxiolytic and antidepressant-like effects. The present study examined whether agmatine attenuates PTSD-like symptoms in an animal model of PTSD.

**Methods:** Rats were grouped as Control, PTSD, PTSD + Agmatine and PTSD + Fluoxetine. To model PTSD, rats were subjected to a single prolonged stress (SPS) protocol, which consisted of restraint, forced swim and loss of consciousness. Following 14 days of undisturbed period in their homecages rats were treated with agmatine (40 mg/kg/day i.p) or fluoxetine (10 mg/kg/day i.p), whereas control and PTSD group received saline for 7 days. Behavioural assessments such as forced swim test (FST) and sucrose preference tests were done to evaluate depressive-like behavior and anhedonia, whereas anxiety-like behaviors were evaluated by elevated plus maze (EPM) and open field test (OFT) immediately after treatment.

**Results:** In PTSD group rats developed anhedonia and the sucrose preference was found decreased compared to control group ( $p < 0.05$ ). Agmatine (40 mg/kg) and fluoxetine (10 mg/kg) treatment inhibited anhedonia-like behavior, whereas no difference was found between these two groups. The immobility time in FST was longer and locomotor activity was significantly suppressed in PTSD group compared to control, which was reversed with agmatine and fluoxetine treatment. In EPM test, PTSD group preferred to stay in closed arm, which was inhibited by agmatine and fluoxetine treatment. OFT significantly attenuated in PTSD group of rats, which was increased by agmatine treatment but not with fluoxetine.

**Conclusions:** Taken together, these findings suggest that exogenously administered agmatine is able to reverse behavioural changes due to PTSD. As an endogenous neuromodulator/neurotransmitter, agmatine might have an impact on PTSD. Further studies are required to understand the underlying mechanism.

### KEYWORDS

Agmatine; PTSD; rat; single prolonged stress; stress

[Abstract:0557][Mental retardation]

## Assessment of anxiety and depression levels in mothers of children and adolescent with intellectual disability

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### ABSTRACT

**Objective:** The birth of a disabled child in the family affects lives, emotions and behaviours of all the family members adversely. Many studies on families with mentally or physically disabled children show that family members, especially the mothers are higher anxiety and depression levels and psychological problems compared to families with non-disabled children. The aim

### KEYWORDS

Adolescents; anxiety; children; depression; intellectual disability

of this study is to determine the sociodemographic characteristics of children and adolescent with Intellectual Disability (ID), their mother's anxiety and depression levels.

**Methods:** We included the mothers of 68 children with ID aged 6–17 years as the study group, and mothers of 60 healthy children as the control group. The sociodemographic data form and Hospital Anxiety and Depression Scale for measuring anxiety and depression levels were administered to the participants.

**Results:** No statistically significant differences were found between the two groups in terms of age of the mother, father and child, and gender of the child ( $p < 0.05$ ). The anxiety and depression levels were significantly higher in the mothers of ID patient group than in the mothers of control group ( $p < 0.001$ ). There was no statistically significant correlation between maternal and children age and HAD scores.

**Conclusions:** In line with previous studies, this study showed that the mothers of children and adolescents with ID compared to the control group had higher levels of anxiety and depression and these levels were statistically significant. Families are mostly inadequate in the process of coping with this dense, stressful and long-term problem and they have some different behavioral and emotional problems. Therefore, it is important to provide psychosocial support to the families, especially to the mothers who give primary care to the child.

[Abstract:0569][Impulse control disorders]

## Psychiatric comorbidity in intermittent explosive disorder

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### ABSTRACT

**Objective:** Intermittent explosive disorder (IED) is defined as the failure to resist aggressive impulses resulting in repeated acts of verbal and/or physical aggression. Although it is frequently encountered in clinical psychiatric practice, there is a paucity of data concerning IED in the scientific literature both internationally and in Turkey. High comorbidity rates have been documented, along with mood, anxiety and substance-related disorders.

**Methods:** A total of 406 patients who were referred to our psychiatry outpatient clinic for the first time in a six-month period were included in the study. Primary psychiatric diagnoses were made according to Diagnostic and Statistical Manual of Mental Disorders, fifth edition (DSM-5) criteria. Additional diagnoses were made using information from the Structured Clinical Interview for DSM-IV (SCID-I) and the Structured Clinical Interview for DSM-IV personality disorders (SCID-II), Symptom Check List-90 (SCL-90), Wender Utah Rating Scale and Adult Attention-deficit/ hyperactivity disorder (ADHD) DSM-IV Based Diagnostic Screening and Rating Scale, clinical interview conducted by researcher and sociodemographic data form.

**Results:** The study group comprised 143 men and 263 women between the ages of 18 and 75 years (mean  $33.7 \pm 12.9$  years) who were referred to our outpatient clinic during the study period. The majority of the sample was married (53%), had low socioeconomic status (56%), was unemployed (70%), lived in urban centers (67%) and was relatively well-educated (67% were at least high school graduate). Table 1 presents the differences in psychopathology between the IED and non-IED groups. Participants in the IED group had significantly higher rates of childhood disorders ( $p < 0.001$ ) and personality disorders ( $p = 0.018$ ) than individuals in the non-IED group. The IED group also had higher rates of 'impulse control disorders not elsewhere classified' as stated in DSM-IV such as trichotillomania ( $p = 0.005$ ), pyromania ( $p = 0.001$ ), and gambling disorder ( $p = 0.035$ ). Comorbidity rates of depression, anxiety disorders, and alcohol/substance-related disorders in the IED group were 32%, 22%, and 9%, respectively.

**Conclusions:** Although the comorbidity rates for depression and anxiety disorders were similar to those reported in the literature, our analysis revealed no significant differences between the IED and non-IED groups in terms of comorbidity of these disorders. It is known that impulsivity, aggression, and anger are core features in many mental disorders such as oppositional defiant disorder, ADHD, and conduct disorder, which were grouped in DSM-IV under the heading of 'disruptive behavioral disorders', and impulsive aggression has also been observed in personality disorders. Higher rates of comorbidity reported in the literature, early onset, and common core clinical features suggest a strong association between these disorders.

### KEYWORDS

Childhood disorders; comorbidity; impulse control disorders; impulsive aggression; intermittent explosive disorder

**Table 1.** Comorbidity of DSM-5 IED with other DSM-5 disorders.

	IED(+) ( <i>n</i> = 68), <i>n</i> (%)	IED(–) ( <i>n</i> = 338), <i>n</i> (%)	<i>P</i>
ADHD childhood	34(50.0)	62 (18.0)	<0.001
ADHD 12-month	21 (30.9)	48 (14.2)	0.01
Oppositional defiant disorder, childhood	33 (48.5)	44 (13.0)	<0.001
Oppositional defiant disorder, 12-month	25 (36.8)	34 (10.1)	<0.001
Conduct disorder, childhood	23 (33.8)	33 (9.8)	<0.001
Conduct disorder, 12-month	4 (5.9)	4 (1.2)	0.030
Compulsive buying	23 (33.8)	22 (9.8)	<0.001
Kleptomania	2 (2.9)	2 (0.6)	0.132
Trichotillomania	12 (17.6)	24 (7.1)	0.0005
Pyromania	4 (5.9)	0 (0)	0.001
Gambling disorder	5 (7.4)	7 (2.1)	0.035
Compulsive sexual behaviour	6 (8.8)	1 (0.3)	<0.001
Anxiety disorders	15 (22.1)	75 (22.2)	0.981
Depression	22 (30.9)	70 (20.7)	0.066
Bipolar disorder	0 (0)	6 (1.8)	0.595
Obsessive compulsive disorder	21 (30.9)	70 (20.7)	0.066
Alcohol/substance-related disorders	6 (8.8)	12 (3.6)	0.096
Personality disorders	12 (17.6)	28 (8.3)	0.018

Kleptomania, trichotillomania, pyromania, and gambling disorder are also required to be specified separately from the categories in which they are included in DSM-5.

[Abstract:0581][Anxiety disorders]

## NPY Receptor Gene Polymorphisms in Anxiety Disorders

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### ABSTRACT

**Objective:** Neuropeptide Y (NPY) is a peptide which is commonly found in the central nervous system. There are studies referring to an association between the NPY polymorphisms and anxiety disorders. In this study, we aimed to examine the NPY gene polymorphism in the patients with panic disorder and generalized anxiety disorder and to examine the relationship between clinical variables and the NPY receptor gene polymorphisms.

**Methods:** Twenty nine patients with panic disorder (PD) and sixty four patients with generalized anxiety disorder (GAD) could complete the study. Also, 76 healthy individuals volunteered to participate in the study as controls. A total of 11 single-nucleotide polymorphisms (SNPs) encoding the NPY Y1, Y2, and Y5 receptors were examined. We assessed the association between the SNPs and the patients' clinical findings and psychometric measurements.

**Results:** There was a genotype-based difference in five SNPs of the patients in the anxiety disorder group (PD + GAD) when compared with the control group [namely, NPY Y1 (rs7687423, rs4691075), NPY Y2 (rs12507396, rs1047214, rs11728843), NPY Y5 (rs11946004)]. Moreover, there was a difference between the generalized anxiety disorder and panic disorder groups regarding genotype and allele in the region of rs11728843, which encodes the NPY Y2 receptor.

It was indicated that regarding the clinical variables, the scores of the Beck-A Scale were higher in the patients that had CC genotype in the rs4691075 and rs1047214, and the ASI-3 scores were higher in the patients with CC genotype in the region of rs4691075. Additionally, the regression analysis demonstrated that having the GG genotype of rs7687423 increased the risk for anxiety disorder by 65.8 fold when compared to the AA genotype.

**Conclusions:** The role of the NPY system in the etiology of anxiety disorder is a current issue, and thus, there are ongoing studies addressing this issue. Our findings support an association between NPY and anxiety disorder. Furthermore, our results are consistent with the results of the previous studies discussing the role of NPY gene polymorphism in anxiety disorders in the literature. However, the small size of sample limits the generalization of the results. Further studies are needed on this topic and conducting studies with larger samples in the future will increase the validity of the results.

### KEYWORDS

Anxiety disorder; neuropeptide Y; NPY; panic disorder; SNPs



[Abstract:0601][Schizophrenia and other psychotic disorders]

## The Relationship Of Oxytocin, Vasopressin and Atrial Natriuretic Peptide Levels with Cognitive Functions In Patients with Schizophrenia

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### ABSTRACT

**Objective:** Studies with regard to schizophrenic patients have found significant social cognition and impairment in other neurocognitive functions. The aim of this study was to examine neurocognition and social cognition levels in patients with schizophrenia, and compare those with healthy controls, to examine the effects of cognitive functions on disease severity, symptoms and function, to examine the effects of blood oxytocin, vasopressin and atrial natriuretic peptide levels on cognitive capacity in patients, and compare these with healthy controls

**Method:** 63 chronic schizophrenic patients at Sakarya University Research and Training Hospital were admitted to study, as were 60 healthy controls. The control group and the patient group were matched in terms of age, gender, duration of education and care was taken to ensure that there was no significant difference in terms of IQ scores. Sociodemographic data form, the Rey Auditory Verbal Learning Test (VLT), the Trail Making Test A-B (TMT), the Stroop Test, the Wechsler Memory Scale-Visual Production Subscale (WMS-V), and the Facial Emotion Recognition Test have been administered to all subjects. In addition, the structured clinical interview for DSM-4 (SCID-I), PANSS (positive and negative syndrome scale), Clinical Global Impression – Severity (CGI-s), and the Global Assessment of Functioning (GAF) scale have been administered to the patients participating in the study. Before applying the tests, 10 mL of venous blood was taken from all participants and analyzed using ELISA.

**Results:** In the healthy control group, some neurocognitive tests showed a statistically significant improvement with oxytocin, and it was also found that there was a correlation between social cognitive performance. Blood vasopressin level did not differ between the groups and it was found that in the healthy control group statistically significant decrease in performance was observed in some social and neurocognitive field tests. Blood ANP levels did not differ between the groups. A statistically significant difference was found in the healthy control group that blood ANP levels affected social cognition in the positive direction.

**Conclusions:** Despite the wide variety of treatment options, the inability to achieve a complete remission goal in schizophrenia treatment, especially the limited presence of antipsychotics on negative findings and cognitive functions, led to the search for other molecules that may be involved in the etiology of schizophrenia. In our study, the relationship between the levels of oxytocin and atrial natriuretic peptides in terms of social cognition was determined in the healthy control group and our study was the first to examine the association between atrial natriuretic peptide and cognitive functions. In addition to oxytocin and vasopressin, our study has contributed to the literature in terms of finding that ANP may be related to cognitive function. These new studies will help us to understand the effects of neuropeptides on neurocognition and social cognition and establish a relationship in schizophrenia patients. They will also offer us an alternative perspective to explain behavioral and memory findings in schizophrenia patients, and will also help us develop new treatment strategies in these areas.

### KEYWORDS

Atrial natriuretic peptide; cognitive functions; oxytocin; schizophrenia; vasopressin

[Abstract:0614][Other]

## Potential audio treatment predictors for bipolar mania

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### ABSTRACT

**Objective:** We aim to find biologic markers for predictors of treatment response via machine learning techniques to be able to reduce treatment resistance. During treatment period,

### KEYWORDS

Audio visual features; bipolar mania; machine learning;

these biologic markers can also help early detection of relapses. All will give an idea for personalized treatment of bipolar patients.

**Methods:** Thirty-five male and sixteen female bipolar mania patients and forty healthy control were recruited from mental health service of Erenköy Mental State Hospital. During hospitalization in every follow up day (0th-, 3rd-, 7th-, 14th-, 28th day) and after discharge on the 3rd month, the presence of depressive and manic features was evaluated by using YMRS and MADRS. For patients in every follow up day and for healthy controls normal, depression and mania simulation, audiovisual recording is done by a video camera.

**Results:** UAR performance for acoustic analysis shows that the audio-only system can differentiate bipolar subgroups (mania/ hypomania/ remission) from healthy control (including depression and mania simulation) with 69.4% success rate, which is statistically significantly higher compared to chance-level UAR score (50% for two classes). Best estimation for bipolar/ healthy discrimination is found as 73% and three class classification (mania/ hypomania/ remission) success rate is found as 55.6% after audio-visual analysis results are voted together. In the third day of treatment, obtained regressed values give a potential to predict treatment response. After four affect score is added to activation and arousal, standard deviation of neutral affect and mean value of sadness can predict YMRS decline on the third day.

**Conclusions:** Effective application of artificial intelligence techniques to identify and classify mood disorders have potential to both identify bipolar disorder and treatment response earlier. It will help to decrease the delay for diagnosis and treatment response which in accordance will decrease treatment resistance.

treatment response; video recognition

**Table 1.** Regressing YMRS declines based on predicted four emotion.

Target	Affective Predictors	B	t	p
X1	Standard deviation of neutral score	2.067	3.667	0.001
	Mean of sadness score	0.553	2.251	0.029
X2	Standard deviation of neutral score	2.606	3.315	0.002
X3	Curvature of happiness score	347.699	3.018	0.005
	Relative position of maximum value of neutral score	0.320	2.549	0.016
	Mean of happiness score	-0.602	-2.745	0.010
	Minimum value of neutral score	-0.263	-2.273	0.030
	Range of anger score	0.352	2.798	0.014
X4	Range of anger score	0.352	2.798	0.014
X5	Highest value of sadness score	0.234	3.401	0.002
	Relative position of maximum value of sadness score	0.166	2.407	0.024

Only predictors having statistically significant relationship with the target variable are listed.

[Abstract:0615][OCD]

## Gender differences in the relationship between teacher report on the brief and Weschler intelligence scores in children with obsessive compulsive disorder

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### ABSTRACT

**Objective:** The Behavior Rating Inventory of Executive Function (BRIEF) is a questionnaire that assesses teacher observations of behaviors associated with executive function in children in the school environment. The current study examines gender effect on the relationship between the BRIEF and Weschler Intelligence Tests in children with Obsessive-Compulsive Disorder (OCD).

**Methods:** Twenty-seven children (Male/Female = 15/12, 12–16 years) with OCD who were diagnosed according to Diagnostic and Statistical Manual of Mental Disorder-5 (DSM-5) were included in this study. Kiddie-Schedule for Affective Disorders and Schizophrenia (KSADS-PL), Children's Yale-Brown Obsessive-Compulsive Scale (C-YBOCS), Clinical Global Impression Scale (CGI), and Weschler Intelligence Score-Revised (WISC-R) were administered to the patients.

**Results:** Results indicate that the Behavioral Regulation Index (BRI), Metacognition Index (MI), and Global Executive Composite (GEC) of the BRIEF correlates with Verbal IQ in female children ( $r^2 = .789$ ,  $p = 0.002$ ;  $r^2 = 0.796$ ,  $p = 0.002$ ;  $r^2 = 0.799$ ,  $p = 0.002$ ), but none of the index scores

### KEYWORDS

BRIEF; child; executive function; gender; obsessive-compulsive disorder

from the BRIEF correlate with any of the WISC-R scores in male children.

**Conclusions:** Executive function differences have been reported in female and male adults with OCD; however, childhood OCD data are limited. According to the prior findings, female patients with OCD had poorer cognitive abilities on the executive function tasks than male patients. We concluded that gender seemed to be a determinant of neuropsychological function in OCD, but these results deserve further examination.

[Abstract:0655][Autism]

## Neuropsychiatric characteristics of tuberous sclerosis complex

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### ABSTRACT

**Objective:** Children with TSC are at high risk for neuropsychiatric syndromes that include intellectual disability, ADHD, and ASD. TSC is one of the most common monogenetic causes of ASD. Approximately 50% of TSC patients have ASD. The aims of this study were: 1) to assess the prevalence of psychiatric disorders in TSC patients; 2) to identify clinical and sociodemographic features in related to ASD in child and adolescents with TSC.

**Methods:** This prospective study was conducted between 2015 and 2017 years. The study included 28 patients with a definite diagnosis of TSC. The cognitive and developmental level was assessed. The cognitive level was evaluated clinically when a formal test could not be performed due to severely impaired mental status. The psychiatric diagnoses were confirmed or excluded clinically according to the DSM-IV-TR criteria and K-SADS. The Social Communication Questionnaire and Autistic Behaviour Checklist were used. Epilepsy data were gathered at each assessment time point. Genetic analysis results were obtained from the review of medical records when available.

**Results:** The study sample was composed of 18 females (64.3%) and ten males (35.7%), aged 17 to 211 months (mean;  $113.8 \pm 59.7$  months). Concerning genetic analyses, four patients (14.3%) had a mutation in TSC1, 18 (64.3%) a mutation in TSC2, and in 1 patient (3.6%) had both of them. The results of genetic analyses were not obtained from five (17.9%) patients. Seven patients (25.0%) had a positive family history of TSC. Only two patients (7.1%) had normal cognitive levels. Of all patients, 22 (78.6%) were diagnosed to have ADHD, and 13 (46.4%) were diagnosed to have ASD. Ninety percent of ASD patients had TSC-2 mutations. Girls had higher stereotypic behavior symptom scores than boys ( $p=0.034$ ). There was a significant relationship between the cognitive level and ASD symptom severity ( $p<0.05$ ). The mean monthly seizure number and the age of seizure onset were not related to ASD. The number of antiepileptic drugs (AEDs) that patients used was positively correlated with ASD symptom severity ( $p<0.05$ ).

**Conclusions:** The rate of ASD in TSC varies widely in published reports. We found ASD prevalence was 46.4%, in line with recent literature data. We also confirmed that in patients with TSC there is no gender difference for ASD diagnosis. However, we found that girls with ASD were significantly different from boys with ASD, concerning with the restricted, repetitive, and stereotyped behaviors and interests domain. Higher prevalence of ASD in individuals carrying TSC2 mutations were reported. In the present study, ninety percent of ASD patients had TSC2 mutations. Consistently with previous research findings, we found the positive correlation between the AEDs number and ASD symptom severity. TSC has long been considered an ideal model to study the development of ASD. However, most studies in TSC have focused on older age groups, and they have relied on parent report for diagnoses. Identification of the neuropsychiatric characteristics associated with ASD symptomatology in TSC can provide guidance for following and intervention.

### KEYWORDS

Tuberous Sclerosis Complex; Autism Spectrum Disorder; seizure; TSC1; TSC2

[Abstract:0660][ADHD]

## The Relationship between platelet activation markers and anxiety symptoms in ADHD

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### ABSTRACT

**Objective:** Limited studies have focused on MPV in ADHD, and results are controversial. In the present study, we aimed to assess the relationship between the PLT, MPV, and PDW as platelet activation markers and anxiety symptoms in adolescents with ADHD.

**Methods:** The retrospective study included 138 stimulant-free adolescents aged 12–17 years who had diagnosed with ADHD in the period between 2015 and 2017. Exclusion criteria included the presence of the anxiety disorders, OCD, tic disorders, psychotic disorder, substance abuse/dependence, and coagulation disorders. Anxiety was assessed by STAI-2 (trait anxiety). Conners Parent Rating Scale and Stroop Test (card four and five scores) were used. Platelet count (PLT), MPV and PDW values were obtained from CBC results that were contemporaneous with psychiatric measurement filling date.

**Results:** The study included a total of 138 adolescents aged 12–17 years (62 females (44.9%) and 76 males (55.1%)). Of these subjects, 77 (55.8%) were ADHD-C, 61 (44.2%) were ADHD-I. There were no significant differences in mean PLT, MPV, and PDW values between the ADHD subtypes and genders. Total ADHD and STAI-II scores did not correlate with any platelet markers. DSM-IV-inattention subscale scores were negatively correlated with MPV values ( $r = -0.198$ ,  $p = 0.02$ ). In ADHD-C group, CPRS-anxiety subscale scores were positively correlated with PLT ( $r = 0.232$ ,  $p = 0.04$ ). STAI-II scores were negatively correlated with MPV values for the only ADHD-C group ( $r = -0.297$ ,  $p = 0.04$ ). PLT and Stroop-IV completing time were positively correlated in both for whole sample and ADHD-I group ( $p < 0.05$ ). In ADHD-C group, MPV levels were positively correlated with correction scores in Stroop-IV, and completion time on Stroop-V ( $< .05$ ). PDW levels were positively correlated with the correction scores on Stroop-IV in ADHD-C group ( $r = 0.327$ ,  $p = 0.004$ ).

**Conclusions:** Current literature on platelet markers and psychiatric disorders mainly focused on anxiety disorder, in particular panic. In these studies, the levels of platelet markers were assessed relative to healthy controls, but the relationship with symptomatology was not examined. Investigation of this relationship in ADHD groups has been moved a step further. The findings of the present study indicate that elevated MPV is related to increased inattention symptoms in all sample, and anxiety symptoms for males with ADHD-C. In the point of anxiety, STAI-II and anxiety subscale of CPRS can be conceptualized as different measurements from each other. Eventually, it is understandable that MPV was related to STAI-II total score, but PLT was related to CPRS-anxiety score. PLT might be involved in ADHD-related anxiety; on the other hand, MPV might seem to be related to trait anxiety. Both of MPV and PDW values were related the correction scores on ST-IV might be interpreted as the possible distractor effect of increased levels of these markers. Elevated MPV level was related to increased completion time on ST-V, which may suggest the possible interaction between the MPV and reaction time when distractor-related conditions occur. However, this last two findings have not been replicated for ADHD-I group. Next studies should be aimed to examine the possible relationship of different anxiety domains and platelet markers in ADHD patients.

### KEYWORDS

Adolescents; anxiety; attention-deficit/hyperactivity disorder; mean platelet volume; stroop interference