

Clinical and Sociodemographic Characteristics of Patients Hospitalized in a Child and Adolescent Psychiatry Inpatient Unit

Bir Çocuk ve Ergen Yataklı Psikiyatri Servisinde Tedavi Gören Hastaların Klinik ve Sosyodemografik Özellikleri

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ABSTRACT

Objective: In this study, it was aimed to examine the clinical and sociodemographic characteristics of patients hospitalized in Ankara City Hospital Child and Adolescent Psychiatry Inpatient Unit during the pandemic period.

Material and Methods: Medical records of children and adolescents who were hospitalized in Ankara City Hospital Child and Adolescent Psychiatry Inpatient Unit between March 2021 and March 2022 were retrospectively analyzed. Patients were evaluated in terms of sociodemographic characteristics, clinical diagnosis and treatment, duration of hospitalization, and Clinical Global Impression Scale (CGI) scores at admission and discharge.

Results: In our study, the mean age of 132 cases (86 girls, 46 boys) was found 15.1 ± 1.8 years. The main diagnoses of the subjects were 30.3% (n=40) major depressive disorder, 25% (n=33) psychotic disorder, 14.4% (n=19) eating disorders, and the remaining 30.3% (n=40) were other disorders. Comorbidity was found in 63.6% (n=84) of the cases. The presence of eating disorders, comorbidity and antidepressant use were found significantly higher in females. There was a significant differences in major depressive disorder (MDD), bipolar disorder (BD), psychotic disorder, eating disorder, conduct disorder, and post-traumatic stress disorder (PTSD) between admission and discharge CGI-Severity (CGI-S) scores. In addition, there was a significant difference between admission and discharge CGI side effects scores only for BD.

Conclusion: In our study, major depressive disorder, psychotic disorder, and eating disorder were the most common diagnoses of cases hospitalized in inpatient unit. There was a comorbidity accompanying two out of every three cases. There are few child and adolescent psychiatry services in our country, and studies on this subject are scarce. It is thought that our study will contribute to the literature on child and adolescent psychiatry inpatient units.

Key Words: Adolescent, Child psychiatry, Hospitalization, Inpatients, Psychopathology, Treatment

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ÖZ

Amaç: Bu çalışmada pandemi sürecinde Ankara Şehir Hastanesi Çocuk ve Ergen Psikiyatri Servisinde yatarak tedavi gören hastaların klinik ve sosyodemografik özelliklerinin incelenmesi amaçlanmıştır.

Gereç ve Yöntemler: Mart 2021-Mart 2022 tarihleri arasında Ankara Şehir Hastanesi Çocuk ve Ergen Psikiyatri Servisinde yatarak tedavi gören hastaların yatış dosyaları geriye dönük olarak incelenmiştir. Hastalar sosyodemografik veriler, yatış sırasında aldıkları tanı ve tedaviler, yatış süresi, yatış ve taburculuk sırasındaki Klinik Global İzlenim Ölçeği (KGIÖ) puanları açısından değerlendirilmiştir.

Bulgular: Çalışmamızda toplam 132 olgunun (86 kız, 46 erkek) yaş ortalaması 15.1±1.8 yıl olarak bulunmuştur. Olguların %30.3'ü (n=40) major depresif bozukluk (MDB), %25'i (n=33) psikotik bozukluk, %14.4'ü yeme bozuklukları (n=19) ve %30.3'ü (n=40) diğer bozukluklar idi. Olguların %63.6'sında (n=84) klinik bozukluk tanısına eşlik eden komorbid başka bir bozukluğun varlığı saptanmıştır. Kız cinsiyetinde yeme bozukluğu, komorbidite varlığı ve antidepresan kullanımı anlamlı yüksek bulunmuştur. Hastaların almış olduğu tanılara göre yatış-çıkış Klinik Global İzlenim Ölçeği hastalık şiddeti (KGIÖ-HŞ) skorları karşılaştırıldığında, MDB, bipolar bozukluk (BPB), psikotik bozukluk, yeme bozukluğu, davranım bozukluğu ve travma sonrası stres bozukluğu (TSSB)'nun anlamlı düzeyde farklılık gösteren bozukluklar olduğu saptanmıştır. Yatış-çıkış KGIÖ yan etki skorları arasında ise yalnızca BPB için anlamlı düzeyde farklılık saptanmıştır.

Sonuç: Çalışmamızda serviste yatarak tedavi gören hastaların en sık major depresif bozukluk, psikotik bozukluk ve yeme bozukluğu tanıları olduğu ve her 3 olgudan ikisine eşlik eden bir komorbidite varlığı saptanmıştır. Ülkemizde çocuk ve ergen psikiyatri servisleri az sayıda olup bu konuda yapılan çalışmalara az rastlanmakta, çalışmamızın çocuk ruh sağlığı yataklı servisleri hakkındaki alan yazına katkı sağlayacağı düşünülmektedir.

Anahtar Sözcükler: Ergen, Çocuk psikiyatri, Hastane yatışı, Yatan hasta, Psikopatoloji, Tedavi

INTRODUCTION

It is known that most of psychiatric disorders emerge during childhood and adolescence (1). Inpatient psychiatry units are of great importance in treatment of children and adolescents who need intensive professional support and cannot be treated in outpatient clinic (2). Despite the development of medical treatment options in recent years, it has been determined that there is a gradual increase in children and adolescents who need inpatient treatment. Nevertheless, the number of child and adolescent psychiatry units worldwide is not sufficient, and many children cannot benefit from inpatient treatment opportunities (3).

Children and adolescents should receive treatment in the least restrictive environment possible, therefore hospitalization should be considered in the presence of severe psychiatric disorders where the child poses a danger to himself or others and has significant impairment in functionality. The main reasons for hospitalization of patients with psychiatric disorders are to intervene in crisis, ensure the safety of the patient, make a comprehensive assessment and long-term treatment planning (3). Besides, compulsory hospitalization may be required in treatment-resistant psychiatric diseases such as psychotic disorders and in cases with poor response to treatment (4). Additionally, in patients with suicidality, self-harm behavior, uncontrollable aggressive behaviors, and diagnostic uncertainty, inpatient treatment may be considered necessary (5).

Childhood and adolescence are critical periods in which biological and social changes are seen, in order to reduce the long-term negative effects of psychiatric diseases (6). Thus, child and adolescent psychiatry inpatient units are of great importance in treatment. It is known that the number of inpatient child and adolescent psychiatry units in our country is few. Therefore, the literature about the patients treated in the

child and adolescent psychiatry unit and the level of benefit they receive from the treatment is insufficient. It is thought that this study will contribute to the literature about the effects of child and adolescent psychiatry units on treatment and the factors associated. In our study, it is aimed to retrospectively examine the sociodemographic characteristics, psychiatric diagnoses, treatments, duration of hospitalization, disease severity during hospitalization and response to treatment at discharge of inpatients in Ankara City Hospital Child and Adolescent Psychiatry Inpatient Unit.

MATERIALS and METHODS

In our study, medical records of patients under the age of 18 who were hospitalized in Ankara City Hospital Child and Adolescent Psychiatry Inpatient Unit between March 2021 and March 2022 were retrospectively analyzed. Patients whose hospitalization duration was shorter than one day due to treatment refusal or hospitalization data were missing were not included in the study. Using the patient follow-up form prepared by the researchers, the patients' age, gender, family characteristics, socioeconomic status, clinical diagnosis, and treatments received during hospitalization, duration of disease and age at onset, duration of hospitalization, Clinical Global Impression Scale (CGI) disease severity, improvement, and side effect scores at admission and discharge were recorded. The diagnoses of patients during their hospitalization were made through clinical interviews according to the diagnostic criteria of the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM 5) of the American Psychiatric Association. This study was approved by the ethics committees of Ankara City Hospital dated 27.04.2022 and numbered E2-22-1692.

CGI (Clinical Global Impression Scale): CGI is a clinician-rated scale which is developed by Guy et al. in 1976. It is a scale

that evaluates the severity of the disease, the improvement in symptoms and the level of side effects of the treatment. It grades the severity of the disease (GGI-S) and the degree of improvement (CGI-I) between 0 and 7, and the severity of side effects between 1 and 4 (7).

Statistical analysis

Statistical analysis in the study was performed using SPSS 24.0 (The Statistical Package for Social Sciences) program. The distributions of continuous variables were evaluated with the "Kolmogorov-Smirnov" test. Normally distributed variables were expressed as arithmetic mean and standard deviation (SD), and non-normally distributed variables were expressed as median and interquartile range (IQR). Categorical variables were expressed as frequency (n) and percentage (%). Student t test, Mann Whitney U test, Pearson- χ^2 test, and paired t test were used for comparisons. $p < 0.050$ was accepted as the significance level.

RESULTS

It was found that there were 150 patients who were hospitalized in our Child and Adolescent Psychiatry Inpatient Unit in a one-year period. Ten of them were discharged on the same day of admission because of treatment refusal. Eight of them were excluded from the study due to missing data. Among 132 patients who met the inclusion criteria, 86 (65.2%) were girls and 46 (34.8%) were boys. The mean age of the patients was 15.1 ± 1.8 years, the median was 15.6 (7-16) years. The mean age of girls was 15.3 ± 1.6 , median was 15.8 (7-18) years, and the mean age of boys was 14.8 ± 2.1 , median was 15.0 (8-18) years.

The most common diagnoses during hospitalization were major depressive disorder (MDD) (n=40, 30.3%), psychotic disorders (n=33, 25%), and eating disorders (n=19, 14.4%). Other common diagnoses are bipolar disorder (BD) (n=10, 7.6%), conduct disorder (n=9, 6.8%), post-traumatic stress disorder (PTSD) (n=7, 5.3%), anxiety disorder (n=3, 2.3%), obsessive compulsive disorder (OCD) (n=3, 2.3%), intellectual disability (ID) (n=3, 2.3%), and dissociative disorder (n=3, 2.3%) was determined. In addition, one patient (0.8%) was diagnosed with autism spectrum disorder (ASD) and another patient (0.8%) was diagnosed with conversion disorder. As well as at least one comorbid psychiatric disorder was found in 84 (63.6%) patients. Having an eating disorder diagnosis in girls was found to be statistically significantly higher (22.1% vs. 0%, $p=0.004$). Again, comorbid psychiatric disorders were found to be significantly higher in girls (69.8% vs. 52.2%, $p=0.045$).

There were no significant differences between boys and girls with respect to disease duration, age at onset, duration of hospitalization ($p > 0.050$ for all variables, Table I). Means of

duration of hospitalization was 22.2 ± 11.3 for MDD, 46.9 ± 35.0 for psychotic disorder, 42.1 ± 24.6 for eating disorder, 37.2 ± 26.3 for BD, 25.6 ± 8.0 for conduct disorder, 26.4 ± 11.4 for PTSD, 26.7 ± 28.9 for anxiety disorder, 43.7 ± 24.5 for OCD, 24.3 ± 6.0 for ID, 16.3 ± 9.1 for dissociative disorder. Likewise, mean values of admission and discharge CGI scores of both genders were found to be similar ($p > 0.050$, Table I). While it was the first hospitalization of 82.5% (n = 109) of the cases, it was the second or more hospitalization of 17.5% (n=23). The frequency of hospitalization was found to be similar between both genders ($p=0.910$). While single psychotropic medication was used in only 11.4% (n=15) of the cases, dual combination was used in 52.3% (n=69) and triple or more psychotropic combination was used in 36.4% (n=48) of them. The number of medication combinations was found to be similar between both genders ($p > 0.050$, Table II). However, antidepressant use was found to be significantly higher in girls (73.3% vs. 37%, $p < 0.001$).

There was a significant difference between admission-discharge CGI-S scores with respect to MDD ($p < 0.001$), psychotic disorder ($p < 0.001$), eating disorder ($p < 0.001$), BD ($p=0.040$), conduct disorder ($p < 0.001$) and PTSD ($p=0.001$). In addition, admission-discharge CGI-I scores were differ for MDD ($p < 0.001$), psychotic disorder ($p < 0.001$), eating disorder ($p < 0.001$), BD ($p < 0.001$), conduct disorder ($p < 0.001$), PTSD ($p < 0.001$), and anxiety disorder ($p=0.038$). There was a significant difference between admission and discharge CGI side effect scores only for BD ($p=0.009$) (Table III).

DISCUSSION

In this study, sociodemographic characteristics, duration of hospitalization, diagnosis and treatment, and admission and discharge CGI scores of the patients treated in the Child and Adolescent Psychiatry Inpatient Unit were retrospectively examined. In our study, the number of girl inpatients was found to be approximately twice the number of boys. Although girls are seen at a higher rate among child and adolescent inpatients according to studies conducted in recent years, gender ratio were found to be close to each other in some of them (8, 9). It was thought that the high prevalence of diagnoses such as major depressive disorder and eating disorder in our inpatient unit, which are frequently seen in girls, could explain the girl predominance (10, 11).

In our study, it was found that almost a third of the patients were hospitalized for major depressive disorder and a fourth of them were hospitalized for psychotic disorder. The findings of our study are consistent with the results of previous studies (12, 13). In accordance with similar studies conducted in our country, major depressive disorder was found to be the most common diagnosis in child and adolescent psychiatry inpatient units (13, 14). However, in a recent study, bipolar disorder was found to

Table I: Comparison of demographic and clinical characteristics of 132 children and adolescents hospitalized in inpatient unit by gender

	Total n = 132	Female n = 86	Male n = 46	Statistics t, z / X ²	p
Demographic					
Age (year)*	15.6 (2.4)	15.7 (1.9)	15.0 (3.5)	-1.276	0.202
Mother's age (year)†	43.4 (6.1)	43.6 (6.2)	43.2 (6.0)	0.326	0.745
Father's age (year)†	48.0 (7.6)	48.6 (8.2)	47.1 (6.2)	0.999	0.320
Mother's educational status (year)*	6.5 (9)	5 (8)	8 (10)	-0.020	0.984
Father's educational status (year)*	8 (10)	8 (10)	8 (10)	-0.381	0.704
Number of siblings,§				0.235	0.889
Single	21 (16.2)	13 (15.5)	8 (17.4)		
Two	40 (30.8)	27 (32.1)	13 (28.3)		
Three or more	69 (53.1)	44 (52.4)	25 (54.3)		
Order of siblings,§				3.219	0.200
First	60 (46.2)	39 (46.4)	21 (45.7)		
Second	38 (29.2)	28 (33.3)	10 (21.7)		
Third or more	32 (24.6)	17 (20.2)	15 (32.6)		
Clinical characteristics					
Diagnose,§				11.247	0.004
MDD	40 (30.3)	33 (38.4)	7 (15.2)		
Psychotic disorder	33 (25.0)	14 (16.3)	19 (41.3)		
Eating disorder	19 (14.4)	19 (22.1)	0		
BD	10 (7.6)	6 (7.0)	4 (8.7)		
Conduct disorder	9 (6.8)	4 (4.7)	5 (10.9)		
PTSD	7 (5.3)	6 (7.0)	1 (2.2)		
Anxiety disorder	3 (2.3)	1 (1.2)	2 (4.3)		
OCD	3 (2.3)	0	3 (6.5)		
ID	3 (2.3)	1 (1.2)	2 (4.3)		
Dissociative disorder	3 (2.3)	2 (2.3)	1 (2.2)		
Conversion disorder	1 (0.8)	0	1 (2.2)		
ASD	1 (0.8)	0	1 (2.2)		
Comorbidity,§	84 (63.6)	60 (69.8)	24 (52.2)	4.009	0.045
Smoking,§	24 (18.2)	14 (16.3)	10 (21.7)	0.601	0.438
Alcohol use,§	12 (9.1)	8 (9.3)	4 (8.7)	0.013	0.908
Duration of disorder (month)*	18 (28.75)	18 (28)	24 (30)	-0.034	0.973
Age at onset (year)*	13 (3)	13 (3)	12 (4.25)	-1.737	0.082
Duration of hospitalization (day)*	26 (18)	27 (18.5)	24 (18)	-1.075	0.282
Order of hospitalization,§				0.391†	0.910
First	109 (82.5)	70 (81.4)	39 (84.8)		
Second	20 (15.2)	14 (16.3)	6 (13.0)		
Third or more	3 (2.3)	2 (2.3)	1 (2.2)		
Admission CGI (score)†					
Severity	4.8 (0.9)	4.8 (0.8)	4.6 (1.0)	0.329	0.743
Improvement	4.3 (0.7)	4.3 (0.7)	4.1 (0.7)	1.478	0.142
Side effects	1.3 (0.5)	1.2 (0.5)	1.4 (0.5)	-1.717	0.088
Discharge CGI (score)†					
Severity	3.7 (0.9)	3.8 (0.7)	3.6 (1.2)	0.986	0.326
Improvement	2.7 (0.5)	2.8 (0.5)	2.7 (0.7)	0.970	0.334
Side effects	1.3 (0.5)	1.3 (0.5)	1.4 (0.6)	-1.143	0.255

*: Median (IQR), †: Arithmetic mean (Standard deviation), ‡: Fisher's exact test, §: n (%), **MDD**: Major depressive disorder, **BD**: Bipolar disorder, **PTSD**: Post-traumatic stress disorder, **OCD**: Obsessive-compulsive disorder, **ID**: Intellectual Disability, **ASD**: Autism spectrum disorder, **CGI**: Clinical Global Impression Scale

Table II: Comparison of medical treatments utilized in inpatient unit by gender

	Total n = 132	Female n = 86	Male n = 46	Statistics Pearson χ^2	p
Combination,*					
Single	15 (11.4)	6 (7.0)	9 (19.6)	5.231	0.073
Dual	69 (52.3)	49 (57.0)	20 (43.5)		
Triple or more	48 (36.4)	31 (36.0)	17 (37.0)		
Psychotropic,*					
Antipsychotics	128 (97.0)	82 (95.3)	46 (100.0)	2.206 [†]	0.137
Antidepressants	80 (60.6)	63 (73.3)	17 (37.0)	16.540	0.000
Benzodiazepine	33 (25.0)	21 (24.4)	12 (26.1)	0.044 [†]	0.836
Mood stabilizers	19 (14.4)	11 (12.8)	8 (17.4)	0.515 [†]	0.603
Psychostimulants	14 (10.6)	9 (10.5)	5 (10.9)	0.005 [†]	1.000

†:n(%), *: Fisher's exact test

be more common among mood disorders (9). According to a study performed in the USA, it was found that attention deficit hyperactivity disorder, specific learning disorder and conduct disorder were the most common diagnosis group after major depressive disorder, bipolar disorder and anxiety disorders (15). In another study conducted in Japan, it was shown that the most common diagnoses in patients hospitalized in the child and adolescent psychiatry inpatient unit were obsessive-compulsive disorder and eating disorder, respectively (16). It is thought that the variability between the diagnosis rates may be related to the fact that studies conducted in different samples and among different age groups.

In this study, it was found that the third common diagnose was eating disorder, and 15% of hospitalized patients were diagnosed with eating disorder. In other studies conducted in our country, this rate was found between 3-5% (9, 12, 17). Although there are conflicting findings in the literature, it is thought that there is an increase in the frequency of eating disorders according to some studies (18). It is suggested that management of eating disorders, which are very challenging in outpatient clinic, may require a multidisciplinary approach. It is thought that the low number of child and adolescent psychiatry inpatient units in our country and the fact that patients with a compelling disease such as eating disorder need to be hospitalized may explain the higher incidence of eating disorders in our study. In our inpatient unit, referred patients with eating disorders diagnosed from all over the country are approached by a team of child psychiatrists, pediatricians, psychologists, nurses and dietitians, results in treatment of patients with eating disorders is achieved successfully.

According to the findings of our study, it was observed that approximately 2/3 of the patients treated in the service has at least one comorbidity. In the study conducted by Serim Demirgören et al. (17), the comorbidity rate was found to be 36% in inpatient child and adolescents. High comorbidity rates are expected since patients with severe and treatment resistant psychiatric disorders are mostly treated in child and adolescent psychiatry inpatient units. However, it is thought that comorbidity rates may vary depending on the difference in the diagnosis rates of inpatients in different studies. In addition, the

rate of comorbidity in girls was found significantly higher in our study compared to males. The diagnoses of MDD and eating disorder were more common in girls in our inpatient unit. In the literature, it has been shown that high rates of comorbidity in adolescents with MDD or eating disorders (19, 20). It is thought that this may explain the higher comorbidity rate in girls in our study.

Another findings of our study is that the most frequently utilized medications were antipsychotics and antidepressants, respectively. Consistent with our findings, it was observed that the most frequently used medication was antipsychotics, and latter antidepressants in similar studies conducted in our country (9, 12). In addition, it was found that the utilization of multiple combination of medications was higher than single psychotropic use in our study. In the study of Coşkun et al. (12), single medication treatment was used in 27% of the patients, while 65% of them treated with combination of psychotropic. Moreover, it was found that polypharmacy is required 78% of child and adolescent inpatients in another research (13). It was thought that the high rates of antipsychotic drug use and polypharmacy may be associated with the admission of treatment-resistant and agitated patients into the psychiatry inpatient units. In our study, antidepressant use was found significantly higher in girls. This may be explained by that the patients hospitalized with the diagnosis of MDD in our service are mostly girls.

In our study, duration of hospitalization was found 26 days. According to studies conducted in our country duration of hospitalization in children and adolescent inpatient psychiatric units vary from 14 days to 22 days (9, 12, 14). In studies carried out in different countries, it is observed that there is a difference between the duration of hospitalization (8, 15, 16). It is suggested that the variability between the duration of hospitalization in different studies may be related to the sample group, the diagnosis rates, and the differences in the health policies of the countries.

Finally, it was determined in our study that there was a significant decrease in severity of the disease and improvement in symptoms in accordance with CGI scale for the diagnoses of

Tablo III: Distribution of admission and discharge CGI values according to disorders

Diagnose	n (%)	Admission CGI M (SD)	Discharge CGI M (SD)	Statistics Paired t	p
MDD	40 (30.3)	4.5 (0.8)	3.5 (0.6)	6.504	<0.001
CGI-S		4.4 (0.7)	2.9 (0.5)	11.699	<0.001
CGI-SE		1.1 (0.3)	1.1 (0.3)	0.681	0.500
Psychotic disorder	33 (25.0)	5.2 (0.9)	4.1 (1.0)	5.116	<0.001
CGI-S		4.4 (0.7)	2.8 (0.6)	11.081	<0.001
CGI-SE		1.5 (0.7)	1.7 (0.6)	-1.320	0.196
Eating disorder	19 (14.4)	5.1 (0.6)	3.7 (0.7)	12.929	<0.001
CGI-S		4.2 (0.7)	2.7 (0.4)	13.077	<0.001
CGI-SE		1.2 (0.4)	1.2 (0.4)	0.000	1.000
BD	10 (7.6)	4.8 (0.9)	3.8 (1.2)	2.400	0.040
CGI-S		4.1 (0.7)	2.7 (0.5)	5.513	<0.001
CGI-SE		1.4 (0.4)	2.1 (0.7)	-3.284	0.009
Conduct disorder	9 (6.8)	4.4 (0.5)	2.8 (0.7)	6.074	<0.001
CGI-S		3.9 (0.9)	2.0 (0.0)	6.107	<0.001
CGI-SE		1.3 (0.4)	1.3 (0.4)	0.000	1.000
PTSD	7 (5.3)	4.9 (0.4)	4.0 (0.0)	6.000	0.001
CGI-S		4.0 (0.0)	2.8 (0.3)	12.021	<0.001
CGI-SE		1.0 (0.0)	1.0 (0.0)	NA	NA
Anxiety disorder	3 (2.3)	4.7 (0.6)	4.2 (1.0)	1.732	0.225
CGI-S		4.3 (0.6)	2.7 (0.6)	5.000	0.038
CGI-SE		1.0 (0.0)	1.0 (0.0)	NA	NA
OCD	3 (2.3)	4.3 (0.6)	3.5 (0.5)	1.890	0.199
CGI-S		3.7 (0.6)	3.0 (0.0)	2.000	0.184
CGI-SE		1.0 (0.0)	1.0 (0.0)	NA	NA
ID	3 (2.3)	5.7 (1.2)	4.5 (0.9)	1.941	0.192
CGI-S		4.0 (0.0)	2.0 (0.0)	0.000	1.000
CGI-SE		1.3 (0.6)	1.3 (0.6)	NA	NA
Dissociative disorder	3 (2.3)	4.0 (0.0)	3.5 (0.7)	1.000	0.500
CGI-S		4.0 (0.0)	3.0 (0.0)	NA	NA
CGI-SE		1.5 (0.7)	1.5 (0.7)	NA	NA

NA: not-applicable, **M(SD):** mean (standart deviation), **CGI:** Clinical Global Impression Scale, **CGI-S:** Clinical Global Impression Scale-Severity, **CGI-I:** Clinical Global Impression Scale-Improvement, **CGI-SE:** Clinical Global Impression Scale-Side effects, **MDD:** Major depressive disorder, **BD:** Bipolar disorder, **PTSD:** Post-traumatic stress disorder, **OCD:** Obsessive-compulsive disorder, **ID:** Intellectual Disability

MDD, psychotic disorder, eating disorder, BD, conduct disorder and PTSD. However, no significant change was found in CGI scores with respect to diagnosis of ASD, ID, and OCD. This suggests that inpatient units' benefits may be more limited in patients with neurodevelopmental disorders such as ASD and ID, and in disease groups such as OCD with a high rate of resistance, compared to other disorders. In the study conducted by Demirgören et al. (19), the functionality levels were evaluated with the Child Global Assessment Scale (CGAS). In this study, it was found that CGAS scores increased from 37 points to 61 in inpatients. Although the functionality levels of patients are evaluated with different scales in various studies, it is observed

that there is an increase in the functionality of children and adolescents hospitalized in psychiatric inpatient units.

LIMITATIONS

The most important limitation of our study is retrospective examining of medical records. Another limitation is lack of factors such as follow-up after discharge, using scales other than CGI, investigating changes in medication and diagnosis between admission and discharge, and psychotherapy practices applied during hospitalization. However, examining the data of a larger

number of patients compared to other studies constitutes the strength of our study.

IMPLICATIONS

Despite the increasing need for child and adolescent psychiatry units in our country, the number of them is few. For this reason, some of the children and adolescents are hospitalized in adult inpatient units or they cannot be hospitalized and get the treatment they need. Children and adolescents diagnosed with eating disorders, who especially need to hospitalization, are handled, and successfully treated with a multidisciplinary approach in our service. Studies on this subject are rare in our country, and it is thought that our study will contribute to the literature on child and adolescent inpatient psychiatry units.

REFERENCES

- Solmi M, Radua J, Olivola M, Croce E, Soardo L, Salazar de Pablo G, et al. Age at onset of mental disorders worldwide: large-scale meta-analysis of 192 epidemiological studies. *Mol Psychiatry* 2022;27:281-95.
- Hayes C, Simmons M, Simons C, Hopwood M. Evaluating effectiveness in adolescent mental health inpatient units: A systematic review. *Int J Ment Health Nurs* 2018;27:498-513.
- Reynolds EK, Gorelik S, Kook M, Kellermeyer K. Acute psychiatric care for pediatric patients. *Int Rev Psychiatry* 2020;32:272-83.
- Lay B, Kawohl W, Rössler W. Predictors of Compulsory Re-admission to Psychiatric Inpatient Care. *Front Psychiatry* 2019;10:120, doi: 10.3389/fpsy.2019.00120.
- McEnany FB, Ojugbele O, Doherty JR, McLaren JL, Leyenaar JK. Pediatric Mental Health Boarding. *Pediatrics* 2020;146:e20201174.
- Hickie IB, Scott EM, Cross SP, Iorfino F, Davenport TA, Guastella AJ, et al. Right care, first time: a highly personalised and measurement-based care model to manage youth mental health. *Med J Aust* 2019;211:3-46.
- Busner J, Targum SD. The clinical global impressions scale: applying a research tool in clinical practice. *Psychiatry (Edmont)* 2007;4:28-37.
- Imran N, Bodla ZH, Asif A, Shoukat R, Azeem MW. Pakistan's First Child & Adolescent Psychiatry Inpatient Unit: Characteristics of admitted patients and response to treatment over a 7-year period. *Pak J Med Sci* 2021;37:305-11.
- Karadağ M, Türk N, Gökçen C, Topal Z. Bir Üniversite Hastanesi Çocuk ve Ergen Psikiyatrisi Kliniğinde Yatan Hastaların Sosyodemografik ve Tanısal Özellikleri. *Türk J Child Adolesc Ment Health* 2021;28:7-11.
- Malhi GS, Mann JJ. Depression. *Lancet* 2018;392:2299-312.
- Ranalli DN, Studen-Pavlovich D. Eating Disorders in the Adolescent Patient. *Dent Clin North Am* 2021;65:689-703.
- Coşkun M, Bozkurt H, Ayaydın H, Karakoç S, Süleyman F, Üçok A. Bir üniversite hastanesi psikiyatri servisinde yatarak tedavi edilen ergen hastaların klinik ve sosyodemografik özellikleri. *Çocuk ve Gençlik Ruh Sağlığı Dergisi* 2012;19:17-24.
- Taş FV, Güvenir T, Miral S. Bir Çocuk ve Ergen Psikiyatrisi Kliniğinde Yatarak Tedavi Gören Hastalarda İlaç Kullanımı. *Çocuk ve Gençlik Ruh Sağlığı Dergisi* 2007;14:139-50.
- Usta MB, Ürer E, Aral A, Say GN, Karabekiroğlu K. Çocuk Psikiyatrisi Hastalarında Yatış Süresine Etki Eden Faktörler. *Klinik Psikiyatri Dergisi* 2017;20:263-7.
- Meagher SM, Rajan A, Wyshak G, Goldstein J. Changing trends in inpatient care for psychiatrically hospitalized youth: 1991–2008. *Psychiatr Q* 2013;84:159-68.
- Setoya Y, Saito K, Kasahara M, Watanabe K, Kodaira M, Usami M. Evaluating outcomes of the child and adolescent psychiatric unit: A prospective study. *Int J Ment Health Syst* 2011;5:1-8.
- Serim Demiregoren B, Ozbek A, Gencer O. Factors affecting improvement of children and adolescents who were treated in the child and adolescent psychiatry inpatient unit. *J Int Med Res* 2017;45:1318-23.
- Litmanen J, Fröjd S, Marttunen M, Isomaa R, Kaltiala-Heino R. Are eating disorders and their symptoms increasing in prevalence among adolescent population? *Nord J Psychiatry* 2017;71:61-6.
- Li F, Cui Y, Li Y, Guo L, Ke X, Liu J, et al. Prevalence of mental disorders in school children and adolescents in China: diagnostic data from detailed clinical assessments of 17,524 individuals. *J Child Psychol Psychiatry* 2022;63:34-46.
- Neale J, Hudson LD. Anorexia nervosa in adolescents. *Br J Hosp Med (Lond)* 2020;81:1-8.