

Comparison of psychopathologies of children of Parents with Chronic Psychiatric Disease

Kronik Psikiyatrik Bozukluğu olan Ebeveynlerin Çocuklarının Psikopatolojilerinin Karşılaştırılması

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ABSTRACT

Aim: In this study, children whose parents were diagnosed with schizophrenia and bipolar I disorder (BID), were compared with each other, and compared with those who did not have any mental disorders in their parents in terms of presence and types of psychopathology.

Methods: This study was carried out on a group of children aged 6 to 17 years. The parents of 11 children were diagnosed with schizophrenia, the parents of 36 children were diagnosed with bipolar disorder and 47 children whose parents did not have any mental disorders, were included in the control group. All children and adolescents filled in the State-Trait Anxiety Inventory for Children (STAI-CH); the parents completed a socio-demographic data form, Conners' Parent Rating Scale-Short form (CPRS-SF), DSM IV-based Screening and Assessment Scale for Behavioural Disorders in Children and Adolescents (T-DSM-IV) and Children's Sleep Habits Questionnaire (CSHQ)-Abbreviated Form.

Results: As a result of the assessments, Oppositional defiant disorder (ODD) symptoms were found to be higher in children who had parents diagnosed with the BID (BID-c) when compared with both children who had parents diagnosed with schizophrenia (SZ-c) and the control group ($p=0,08$). Learning problems were found to be higher in the SZ-c group when compared with both the (BID-c) and the control group ($p=0,08$). State anxiety was found to be higher in the SZ-c group when compared with the control group ($p=0,020$). No difference was found between the groups in terms of conduct disorder (CD), attention deficit (AD), hyperactivity, psychosomatic complaint, sleep disorder and trait anxiety (respectively; $p=0,112$, $p=0,590$, $p=0,098$, $p=0,776$, $p=0,741$, $p=0,924$).

Conclusion: The results of the study suggested that the symptoms of ODD may be more common in the BID-c group, and the learning problem might be more common in the SZ-c group. Care should be taken in terms of ODD in children of parents diagnosed with bipolar I disorder, and in terms of learning problems in children of parents diagnosed with schizophrenia.

Key Words: Schizophrenia, bipolar disorder, child, parents, psychopathology

ÖZ

Amaç: Bu araştırmada ebeveynlerinde şizofreni veya bipolar I bozukluk (BIB) tanısı bulunan çocuklar, ebeveynlerinde herhangi bir ruhsal bozukluk bulunmayan çocuklar ile ve birbirleri ile psikopatoloji varlığı ve türleri açısından karşılaştırıldı.

Yöntemler: Çalışmaya 6-17 yaş aralığında, ebeveyni şizofreni tanılı 11 çocuk, ebeveyni BIB tanılı 36 çocuk ve kontrol grubu olarak ebeveyninde herhangi bir ruhsal bozukluğu olmayan 47 çocuk dahil edilmiştir. Araştırmaya alınan tüm çocuk ve ergenlere çocuklar için durumluk-sürekli kaygı envanteri (ÇDSKE) doldurtulmuştur, ebeveynlerine de sosyodemografik veri formu, conners ana baba derecelendirme ölçeği kısa formu, (CADÖ-KF) çocuk ve ergenlerde davranım bozuklukları için DSM IV e dayalı tarama ve değerlendirme ölçeği (T-DSM-IV), çocuk uyku alışkanlıkları anketi kısa formu (ÇUAA) doldurtulmuştur.

Bulgular: Değerlendirmeler sonucunda, Karşıt olma karşıt gelme bozukluğu (KOKGB) belirtileri; BIB tanılı ebeveynle sahip çocuklarda (BIB-ç) hem şizofreni tanılı ebeveynle sahip çocuk (ŞZ-ç) grubuna göre hem de kontrol grubuna göre daha yüksek bulunmuştur ($p=0,08$). Öğrenme sorunu ise ŞZ-ç grubunda hem (BIB-ç) grubuna hem de kontrol grubuna göre daha yüksek bulunmuştur ($p=0,025$). Durumluk kaygı ŞZ-ç grubunda kontrol grubuna göre daha yüksek bulunmuştur ($p=0,020$). Davranım bozukluğu (DB), dikkat eksikliği (DE), hiperaktivite, psikosomatik yakınma, uyku bozukluğu ve sürekli kaygı açısından gruplar arası farklılık belirlenememiştir (sırasıyla; $p=0,112$, $p=0,590$, $p=0,098$, $p=0,776$, $p=0,741$, $p=0,924$).

Sonuç: Araştırmanın sonuçları, BIB-ç grubunda KOKGB belirtilerinin daha sık olabileceğini, ŞZ-ç grubunda öğrenme sorununun daha sık olabileceğini düşündürmüştür. Bipolar I Bozukluk tanılı ebeveynlerin çocuklarında KOKGB açısından, şizofreni tanılı ebeveynlerin çocuklarında ise öğrenme sorunu açısından dikkatli olunmalıdır.

Anahtar Kelimeler: Şizofreni, bipolar bozukluk, çocuk, ebeveynler, psikopatoloji

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INTRODUCTION

Schizophrenia and BID are psychiatric disorders characterized by high genetic transmission, with the highest risk factor being positive family history [1]. Children of parents with mood disorder and psychotic disorder are under great risk for the development of behavioral and emotional problems in childhood and serious mental disorders in later years [2]. According to the results of a recent study, the prevalence of psychopathology and comorbidity was higher in children whose parents were diagnosed with schizophrenia and bipolar I disorder (BID) than those who did not have any mental disorders in their parents, at baseline and at follow-up [3]. Because of this high risk, it is very important to understand the presence and types of the psychopathology of children of parents diagnosed with schizophrenia and BID. This information can provide early psychosocial intervention to these children.

Understandably, patients diagnosed with schizophrenia and BID wonder whether the same disorder or another psychiatric disorder, will develop in their children in the future. A correct risk assessment is the most important factor of the communication with the patients and their families. In this study, we hypothesized that we would find more psychopathology in the BID-c group and the SZ-c group than in the control group. Our aim was to find out the presence and types of psychopathologies in children of adults diagnosed with schizophrenia and BID, then to compare the groups with each other and with the control group. Knowing the common psychopathologies in children whose parents are diagnosed with BID and schizophrenia will provide early diagnosis and intervention, so that these children will experience less difficulty in their later years.

MATERIAL AND METHOD

Sample

As the study group, 36 children (between the ages of 6-17) of 36 patients (15 female, 11 male) diagnosed with Bipolar I, and 11 children (between the ages of 6-17) of 11 patients (5 female, 6 male) diagnosed with schizophrenia who referred to psychiatry polyclinic of mood and psychosis of a university hospital between the years 2017 and

2018, were included in the study. As the control group, 47 children between the ages of 6 and 17 who agreed to participate in the study and who referred to the pediatric polyclinic of a university hospital for a physical complaint, and whose parents did not have any mental disorders, were also included. A written informed consent form was received from 94 children who volunteered to participate in the study and from their parents. Approval was sought and received from the Ethical Board Committee for the study on 05.10.2017, bearing decision number 2017/279.

Data Collection Instruments

Socio-demographic Data Form: The information form designed by the researchers to collect the socio-demographic data of the cases.

Conners' Parent Rating Scale-Short form (CPRS-SF): The scale which includes 48 items. There are 6 items in Learning Problems (LP) factor, 6 items in Hyperactivity (HA) factor, 5 items in opposition (O) factor, 12 items in Conduct Problem (CP), 8 items in anxiety problem factor and 5 items in psychosomatic complaint factor. It was developed by Goyette et al. in 1978 [4]. CPRS-SF was adapted into Turkish by Dereboy et al. [5].

DSM IV-based Screening and Assessment Scale for Behavioral Disorders in Children and Adolescents - Turgay (T -DSM- IV): This scale was developed by Turgay based on DSM-IV diagnostic criteria [6]. It has 41 items. There are 9 items on hyperactivity and impulsivity (HI), 9 items on attention deficit (AD), 8 items on ODD and 15 items on CD.

Children's Sleep Habits Questionnaire (CSHQ)-Abbreviated Form: It was developed by Owens et al. in 2000 in order to analyze children's sleep habits and their problems related with sleep and it consists of a total of 33 items [7]. Validity and reliability study of this scale was conducted by Perdahlı Fiş et al. [8].

State trait anxiety inventory for children (STAIC-CH): STAIC-CH trait anxiety scale consists of 20 items and the child is asked to evaluate how s/he feels in "general". In STAIC-CH state anxiety, the child is asked to evaluate how s/he feels in "that moment" and it consists of 20 items. Validity and

reliability study of this scale was conducted by H. Şeniz Özusta [9,10].

Statistical Analysis

STATISTICA Version 13.3 was used for the statistical analysis of the data. Continuous data was summarized with average, standard deviation, minimum, maximum, median, 25. and 75. percentage values. Categorical variables were summarized as number and percentage (%) values. The medians of more than two independent groups were compared with the non-parametric method Kruskal-Wallis test. A Chi-square analysis was performed for the associations between patient and study groups and Conners' Parent Rating Scale-Short form and DSM IV-based Screening and Assessment Scale for Behavioral Disorders in Children and Adolescents, for conduct disorders in children and adolescents. The statistical significance level was accepted as (p) 0.05 for all comparisons and $p < 0.05$ was considered as statistically significant.

RESULTS

The sample groups consisted of a total of 94 children between the ages of 6 and 17: 47 children, 76,6% (n=36) whose parents were diagnosed with BID and 23,4% (n=11) whose parents were diagnosed with schizophrenia as the case group and 47 children whose parents did not have any mental disorder. The average age of the children in the case group was 12.6 ± 3.0 years, while the average age of the children in the control group was 12.1 ± 3.0 years. 42.6% (n=20) of the case group were female and 57.4% (n=27) were male. 68.1% (n=32) of the control group were female and 31.9% (n=15) were male. The rate of females in the case group was statistically significantly lower than the rate of males ($p=0.013$). The average age of the mothers in the case group was 39.6 ± 4.6 and the average age of the fathers in the case group was 42.4 ± 8.9 . The average age of the mothers in the control group was 39.4 ± 5.3 and the average age of the fathers in the control group was 43.4 ± 6.3 . The average time of breastfeeding was 12.6 ± 10.4 months in the case group and 13.5 ± 7.4 months in the control group. No statistically significant differences were found between the case and the control group in terms of the average age of the children, the average age of parents, the average

time of breastfeeding and the parents' level of education.

Conners' Parent Rating Scale-Short form (CPRS-SF)

The differences between study groups' CPRS-SF, CP, O, HA, anxiety and psychosomatic sub-dimension scores, were not statistically significant. However, the differences between LP sub-scale medians of SZ c and both the BID-c group and the control group, were statistically significant ($p=0.025$) (Table 1).

DSM IV-based Screening and Assessment Scale for Behavioural Disorders in Children and Adolescents - Turgay (T -DSM- IV)

According to the T-DSM-IV scale, there were 11 children with symptoms of AD, 45.5% (5) of these were in the BID-c group, 18.2% (2) of these were in the SZ-c group and 36.4% (4) were in the control group. The number of children with HI symptoms was 8, 37.5% (3) of these were in the BID-c group, 37.5% (3) of these were in the SZ-c group and 25.0% (2) were in the control group. The number of children with CD symptoms was 1 and that single child was in the SZ-c group. There were no statistically significant differences between the groups in terms of AD, HI and CD symptom distribution (respectively; $p=0.112$, $p=0.590$, $p=0.098$, $p=0.776$, $p=0.741$, $p=0.924$).

A statistically significant difference was nevertheless found between the groups in terms of ODD symptom distribution ($p < 0.008$). In children with ODD symptoms, the BID-c rate was higher than both the SZ-c rate and the control rate (Table 2).

Children's Sleep Habits Questionnaire (CSHQ)-Abbreviated Form

In the study, the rate of children with clinically significant level of sleep disorder was 72.2% (26) in the BID-c group, as 81.8% (9) in the SZ- c group and 70.2% (33) in the control group. There were no statistically significant differences between sleep disorder rates of the groups ($p=0.741$).

State trait anxiety inventory for children (STAIC-CH)

Table1. CPRS-SF subscale score comparison between groups

	BID-c group (n=36)		SZ-c group (n=11)		Control Group (n=47)		p
	Av± SD	Median	Av± SD	Median	Av± SD	Median	
CPRS-SF CP	6.75±5.74	5.00	7.00±6.24	4.00	5.02±3.96	4.00	0.479
CPRS-SF O	2.25±2.37	1.50	2.91±2.46	3.00	1.68±2.21	1.00	0.124
CPRS-SF HA	3.89±3.10	3.00	5.00±3.19	6.00	3.55±2.46	3.00	0.411
CPRS-SF LP	3.56±3.03	3.50	6.55±4.98	6.00	2.91±2.85	2.00	0.025
CPRS-SF Anxiety	5.75±3.63	5.00	5.09±2.30	5.00	5.45±3.83	5.00	0.851
CPRS-SF Psycho somatic	1.56±2.04	1.00	1.73±2.28	1.00	1.21±1.42	1.00	0.776

Kruskal-Wallis; CPRS-SF, Conners' Parent Rating Scale-Short form; CD, Conduct problem; O, Opposition; LP, Learning problem; BID-c, children who had parents diagnosed with Bipolar I Disorder; SZ-c, children who had parents diagnosed with schizophrenia; Avt±sd, Average ± standard deviation; p<0.05 statistically significant

Table 2. Comparison of T-DSM-IV Oppositional Defiant Symptom presence rates between groups

		T-DSM IV ODD No	T-DSM-IV ODD Yes	Total	P
BID-c group	Count	26	10	36	0.008
	% of those with symptom presence	32.9%	66.7%	38.3%	
SZ-c group	Count	8	3	11	
	% of those with symptom presence	10.1%	20.0%	11.7%	
Control group	Count	45	2	47	
		57%	13.3%	50.0%	

square; T-DSM-IV, DSM IV-based Screening and Assessment Scale for Behavioural Disorders in Children and Adolescents - Turgay; ODD, Oppositional Defiant Disorder; BID-c, children who had parents diagnosed with Bipolar I Disorder; SZ-c, children who had parents diagnosed with schizophrenia; p<0.05 statistically significant

The difference between STAIC-CH Trait anxiety scores of the groups in the study was not statistically significant. However, the differences between state anxiety scale score medians of the control group and the SZ-c group, were statistically significant (p=0.020) (Table 3).

Table 3. Comparison of the STAIC-CH scores between the groups

		Trait Anxiety	State Anxiety
BID-c group	Av± SD	35.34±6.202	34.60±6.950
	Median	35.00	36.00
SZ-c group	Av± SD	36.64±6.874	38.82±8.023
	Median	37.00	37.00
Control group	Av± SD	35.96±7.799	32.49±8.097
	Median	35.00	30.00
	p	0.924	0.020

Kruskal-Wallis; STAIC-CH, State trait anxiety inventory for children; BID-c, children who had parents diagnosed with Bipolar I Disorder; SZ-c, children who had parents diagnosed with schizophrenia; Avt±sd, Average ± standard deviation; p<0.05 statistically significant

DISCUSSION

Children of parents diagnosed with schizophrenia and BID have an increased risk of mental disorder [1,11]. In our study, although psychopathology

frequency was found to be higher in the study groups in general, a statistically significant difference was ODD symptoms being higher in the BID-c group when compared with the control group, and LP and state anxiety being higher in the SZ-c group, when compared with the control group.

In our study, the differences between groups in terms of the CPRS-SF O sub-dimension scores were not found to be statistically significant. However, according to the T-DSM-IV scale, the rate of patients with ODD symptoms in the BID-c group was higher than both the SZ-c and the control group (Table 2). This result is in parallel with the results of recently conducted studies that show that all three sub-dimensions of ODD can predict the CD diagnosis, but in particular, the "angry/easily getting angry" mood sub-dimension can predict the mood disorders that can occur in the future [12,13]. However, in our study, ODD sub-dimensions were not examined separately. At the same time, in a recently conducted study comparing children who have parents with schizophrenia, BID and major depressive disorder diagnosis, the highest ODD level was found in the

group with BID diagnosed parents [14].

Although we found a statistically significant difference only for ODD symptoms for the BID-c in our study, different results were obtained in previous studies. In a controlled study conducted in our country, children who had parents diagnosed with BID had significantly higher rates of having both psychopathology and coexistence of these pathologies for life, when compared with children in the control group [15]. In a recently conducted meta-analysis, at least one mental disorder was found in 55% of children who had parents diagnosed with BID and major depression, and very little difference was found between the groups [16].

In our study, the CPRS-SF LP sub-dimension scores of the SZ-c group were found to be statistically significantly higher when compared with both the BID-c group and the control group (Table 1). Neuropsychological decline is a key feature of schizophrenia and many studies have shown the association between the prodromal phase and increased cognitive impairment, in high-risk adolescents [17]. A comparative meta-analysis of neurocognition in first-degree relatives of patients with schizophrenia and bipolar disorder, found that deficiencies in general intellectual ability, verbal learning, planning and working memory, may be more specifically associated with the risk of schizophrenia [18].

In our study, the result that LP scores were statistically significantly higher in the SZ-c group when compared with the BID-c group was in parallel with previously conducted studies. A large number of studies have found that cognitive problems were more specific in children who had parents diagnosed with schizophrenia, when compared with children who had parents diagnosed with BID [19,20].

In our study, no statistically significant differences were found between groups in terms of CP, AD and HI, according to the CPRS-SF and the T-DSM-IV scale. The association between diagnosis of schizophrenia and BID in parents and the risk of disruptive behavioral disorders, including conduct disorders (CD) in the offspring, has been demonstrated by previous epidemiologic studies [21]. According to the results of previous reports, an

increased risk of attention deficit and hyperactivity disorder (ADHD) was observed in children whose parents were diagnosed with schizophrenia or BID, just like disruptive behavioral disorders [22,23]. This inconsistency with the previous literature can be due to our insufficient number of samples.

There were no statistically significant differences between the groups in terms of sleep disorders. Although there is no clear information about sleep disorders in children who have parents diagnosed with schizophrenia, sleep disorders were found to be BID prodromal syndrome in prospective studies that examined the children of parents diagnosed with bipolar disorder [24].

Although the difference between the STAIC-CH trait anxiety scores of study groups was not significant, the trait anxiety scores of the SZ-c and the BID-c groups were higher than the control group. State anxiety scores of the BID-c and the SZ-c groups were higher than those of the control group; however, only the difference between the state anxiety scale scores of the control group, and the SZ-c group was statistically significant (Table 3). Similar to the results of our study, previous studies found higher anxiety disorders in the children of parents diagnosed with schizophrenia and BID [23,25].

Limitations: The low number of participants and their lack of homogeneity, the unavailability of objective neuropsychiatric assessments, as well as subjective scales for evaluating cognitive abilities, such as learning problems and attention deficit, are among the limitations of our study. Other limitations of our study include the cross-sectional nature of the research and the structure of the control group, which consisted of children admitted to the hospital due to physical complaints, as there may be a higher risk for mental problems associated with physical problems.

Conclusion: The relationship of ODD and learning difficulty with the BID-c and the SZ-c is a complex process. Findings from this study demonstrate that ODD is more related to the BID-c group, whereas learning difficulty is more related to the SZ-c group. In the light of these results, there is a need for large scale follow-up studies and objective tests, to be able to definitively conclude that ODD is a BID-c specific psychopathology and learning

difficulty is a SZ-c specific psychopathology.

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