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RESEARCH ARTICLE

Clinical phenomenology in children and adolescents with bipolar disorder

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ABSTRACT

Objective: The aim of our study was to evaluate the clinical phenomenology, prognosis, comorbidity, and the effect of resilience on clinical course in hospitalized children and adolescents with bipolar disorder (BD) by comparing them with and without psychotic features.

Method: The study group included 60 cases with BD in the inpatient unit of the Child and Adolescent Psychiatry Clinic of Bakirkoy Prof. Mazhar Osman Training and Research Hospital for Psychiatry, Neurology and Neurosurgery. Psychiatric assessment and comorbid disorders were established using the Kiddie Schedule for Affective Disorders and Schizophrenia for School-Age Children-Present and Lifetime Version. We also administered the Young Mania Rating Scale (YMRS) for manic symptoms, Positive and Negative Syndrome Scale (PANSS) for psychotic symptoms, Child and Youth Resilience Measure, and Children Global Assessment Scale to the patients. The patients were evaluated during the remission period.

Results: Psychotic symptoms were found in 76.7% of the cases in our study. They were significantly higher in male cases. The most common symptom found was a decreased need for sleep. The scores of YMRS and PANSS were significantly higher in psychotic cases. The comorbidity of Attention Deficit Hyperactivity Disorder was found to be significantly higher in nonpsychotic cases. No difference was found in both groups in terms of resilience.

Conclusion: Poor judgment and persecutory delusions were predictors of poor clinical course in children and adolescents with BD. Evaluating relevant predictors in larger study samples will provide more significant results in predicting clinical course in patients with BD.

Keywords: Adolescents, bipolar disorder, children, clinical phenomenology

INTRODUCTION

Bipolar disorder (BD) is a lifelong psychiatric disorder that significantly affects the quality of life from 1% to 2% (1). In retrospective studies of adult cases, approximately 30%–60% of the cases have been shown to have an onset age before the age of 20 years, and in one-fourth of these, the first mood episode is before the age of 13 years (2).

Adolescents with BD experience more severe symptoms and worse prognosis compared with adults (3). It was reported that the time spent with the disease was longer in cases with BD symptoms before the age of 12 years (4,5). BD is estimated to be the leading cause of disability in individuals aged 10–24 years (6). Studies showed that early-onset pediatric BD has been associated with higher rates of psychotic symptoms. This frequency of psychotic symptoms

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may increase the risk of low response to treatment in the long term in individuals with early onset of BD (7–10). Psychotic symptoms in pediatric BD have been reported to have a negative impact on interepisodic functionality and improvement (11). In addition, the presence of psychotic symptoms was associated with an increased number of mood episodes, psychiatric hospitalizations, and psychiatric comorbidities (12).

Patients with BD show increased impulsivity not only in the manic state but also in the euthymic state (13). Impulsivity-related cognitive disorders in BD may reduce the ability of patients to cope with distressing and stressful life events. A low degree of coping with stress can be considered a situation that affects resilience. On the other hand, low levels of resilience may predispose patients with BD to behave impulsively in response to stress. Therefore, resilience may be closely related to BD, and the number of studies investigating this relationship is quite low (14).

The aim of our study was to evaluate the clinical phenomenology, comorbidity, and course in children and adolescents with BD. The findings of this study may be a guide for clinicians to evaluate the effect of admission symptoms on the clinical course of children and adolescents with BD. We evaluated clinical phenomenology of pediatric BD and prognostic factors such as resilience in children and adolescents in remission, and comorbidity was evaluated by a semistructured interview. We also aimed to evaluate resilience by comparing the group with and without psychotic symptoms.

Our hypothesis is that in children and adolescents, the onset of BD is with psychotic symptoms, differs from adults, and the clinical course may be adversely affected if accompanied by psychotic symptoms. Therefore, we evaluated the relationship between recurrent episodes, length of hospitalization, clinical improvement, comorbidity, resilience (we consider prognostic), and manic and psychotic symptoms (e.g., poor judgment, hallucination, and delusion). Our second hypothesis is that resilience has a positive effect on the clinical course in BD.

METHOD

Sample

The study group included 60 cases between 12 and 18 years of age who were admitted to the inpatient unit with BD between January 2015 and May 2018. Of these, 32 were girls and 28 were boys. These patients were hospitalized for being in manic episodes. Among those hospitalized with the diagnosis of BD, those in remission after discharge were included in the study. We determined the remission through Young Mania Rating Scale (YMRS). The inclusion criteria for this study were those hospitalized with a diagnosis of BD between the ages of 12 and 18 years and in remission in the post-discharge evaluation. Written informed consent was obtained from the patients included in the study and their parents. The exclusion criteria for this study were mental retardation in the family or child and BD induced by substance use.

Procedure

Patients in the emergency outpatient clinic were evaluated first, and those with indications for hospitalization (i.e., harm oneself and suicide attempt) were admitted to the inpatient unit. YMRS and Positive and Negative Syndrome Scale (PANSS) were administered during admission, at discharge, and during the remission period. Clinical Global Impression Scale (CGI) was applied at discharge. We also applied the Suicide Behavior Questionnaire (SBQ), Kiddie Schedule for Affective Disorders and Schizophrenia for School-Age Children (K-SADS), Child and Youth Resilience Measure (CYRM) to the patients in the remission period. As we included the cases who did not trigger an episode by substance use and did not have mental retardation in our study, we excluded no patients. The diagnosis was made by the treatment team in the inpatient clinic using clinical observation and the YMRS and PANSS scales. As we included patients who had manic episodes during hospitalization, there were no patients with depressive episodes during the same hospitalization period. The patients were divided into two groups using PANSS according to whether they had psychotic symptoms or not.

Measures

Sociodemographic Data Form

The form was developed by the researchers, to evaluate the sociodemographic characteristics of the patients and when symptoms of BD were started, the family history of psychiatric disorder.

Kiddie Schedule for Affective Disorders and Schizophrenia for School-Age Children Present and Lifetime Version

It is a semistructured interview form developed by Kaufman et al. (15) to determine the psychopathology of children and adolescents in the

past and present according to the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) criteria. The reliability and validity study of the Turkish translation was conducted by Gokler and Unal in 2004 (16). K-SADS was used to detect comorbidity. In the last part of the scale, the general functionality of the child is determined (Children Global Assessment Scale).

Clinical Global Impression Scale

The scale was developed by Guy et al. (17) in 1976 to evaluate the progress of all psychiatric disorders at any age for clinical research purposes. CGI-S is used to indicate the severity of the disorder. CGI-I is used to evaluate global recovery. The extent to which the person with a psychiatric disorder changes according to the situation when he/she enters the study is evaluated between 1 and 7 points.

Young Mania Rating Scale

YMRS was completed by the interviewer to measure the intensity and change of the manic state and developed by Young and colleagues. In this scale, there are subgroups such as elevated mood, increased energy, sexual interest, sleep, irritability, speed and amount of speech, thought disorder, thought content, disruptive behavior, external appearance, and insight. The reliability and validity study of the Turkish translation was conducted by Karadag et al. (18).

Positive and Negative Syndrome Scale

It was developed by Kay et al. (19) in 1987 and is a semistructured interview scale with a 30-item and 7-point severity assessment. The PANSS is scored by summation of rating across items such that the potential ranges are 7–49 for the Positive and Negative Scales and 16–112 for the General Psychopathology Scale. The reliability and validity study of the Turkish translation was conducted by Kostakoglu et al. (20). The PANSS was used to determine psychotic symptoms.

The Child and Youth Resilience Measure

The CYRM is a measurement tool that allows the collection of information about the psychological resilience of children and adolescents. The short-form study of the scale was conducted by Liebenberg, Ungar, and LeBlanc (21) in 2013, and a 12-item structure was obtained from two different studies. Items are rated on a 5-point scale from 1 (does not describe me at all) to 5 (describes me a lot). Higher scores indicate higher levels of resilience. Turkish validity and reliability study of the short version was conducted by Arslan in 2015 (22).

The Suicide Behavior Questionnaire

This inventory was developed by Linehan et al. (23) in 1981, and Turkish validity and reliability study of the SBQ was conducted by Bayam (24). The lowest score that can be obtained from the suicidal behavior questionnaire is 0 and the highest score is 14. The degree of suicidal behavior severity increases when the score increases.

Statistical Analysis

Statistical analysis was performed with IBM SPSS version 21.0 (IBM Corp., Released 2012, Armonk, NY, USA) package program. Descriptive statistics were given as mean, standard deviation, median, minimum, maximum, frequency, and percentage. Pearson's Chi-squared and Fisher's exact test were used to compare discrete variables. The Shapiro–Wilk test was used to determine the consistency of continuous variables to normal distribution. Intergroup comparisons of continuous variables were performed with the independent (Student's) t-test and the Mann–Whitney U test. Logistic regression analysis was used to determine the independent variables predicting some clinical features (recurrent episodes, duration of hospitalization, CGI-S, resilience, and comorbidities) of the patients. A value of $p<0.05$ was accepted as statistically significant.

RESULTS

Our study was carried out with 60 patients. The study sample was divided into two groups as psychotic symptoms accompanied and not. There were 46 (76.7%) patients with psychotic symptoms and 14 patients (23.3%) without psychotic symptoms. There was a statistically significant difference between the groups in terms of gender distribution ($p=0.031$) (Table 1).

When the symptoms of the participants were examined, the most common symptom was found to be a decreased need for sleep (90%). A statistically significant difference was found for suspiciousness in terms of initial symptoms ($p<0.001$, Table 2). The elevated mood was found to be statistically higher in the group without psychotic symptoms.

The diagnosis of discharge was the main diagnosis received by the patients during follow-up, and the diagnosis of hospitalization was evaluated as the preliminary diagnosis. The diagnosis was made in the inpatient clinic accompanied by the treatment team's YMRS and PANSS scales. The preliminary diagnosis

Table 1: Sociodemographic characteristics

			With psychotic symptoms (n=46)	Without psychotic symptoms (n=14)	χ^2	p
	Min–Max	Mean±SD	Mean±SD	Mean±SD		
Age[a]	14–21	17.87±1.46	17.65±1.38	18.57±1.55		0.061
Age at diagnosis[a]	11–17	15.63±1.40	15.59±1.39	15.79±1.47		0.0646
			n (%)	n (%)		
Gender[b]					4.673	**0.031***
Female			21 (45.7)	11 (78.6)		
Male			25 (54.3)	3 (21.4)		
Educational status[b]					3.901	0.142
School left			19 (41.3)	10 (71.4)		
Continued			20 (43.5)	3 (21.4)		
Correspondence			7(15.2)	1 (7.1)		
Working status[c]						1.000
Working			8 (17.4)	2 (14.3)		
Not working			38 (82.6)	12 (85.7)		
SES[c]						0.756
Lower than 2000 tl			16 (34.8)	4 (28.6)		
2000 tl and above			30 (65.2)	10 (71.4)		

Min: Minimum; Max: Maximum; SD: Standard deviation; SES: Socioecomonic status; *: P<0.05; a: Student's t-test; b: Pearson's Chi-squared test; c: Fisher's exact test.

was made by the psychiatrist who evaluated it in the emergency clinic with a clinical interview. The preliminary diagnoses of the patients included in the study were 61.7% (n=37) of psychotic mania, 23.3% (n=14) of BD without psychotic features, and 15% (n=9) of psychotic disorder. The discharge diagnoses were 83.3% (n=50) of psychotic mania and 16.7% (n=10) of BD without psychotic features. These patients, referred to as "psychotic disorder," were evaluated with a preliminary diagnosis of psychotic disorder at the time of hospitalization and were diagnosed with mania during hospitalization. They were not diagnosed with a psychotic disorder. When 80% of the cases showed continuity of diagnosis, 20% of the diagnosis was found to change. There was a statistically significant difference between the groups with and without psychotic symptoms in terms of preliminary and discharge diagnosis variables (p<0.001, Table 2). The group without psychotic features was initially diagnosed with BD without psychotic features, but the patients who were admitted to the hospital with the preliminary diagnosis of psychotic disorder were diagnosed with psychotic mania at discharge.

CGI scores, Children Global Assessment Scale (CGAS) scores, CYRM, and SBQ scores are shown in Table 3, and no statistically significant difference was found. YMRS scores were significantly higher in the group with psychotic symptoms at the time of admission. The related data are shown in Table 3.

When the PANSS scores at admission were compared between the two groups, positive subscale scores (p<0.001), general psychopathology subscale scores (p=0.031), and total scores (p<0.001) were statistically significantly higher in the psychotic group. When the PANSS scores in the remission state were compared, the general psychopathology subscale score was significantly higher in the group without psychotic symptoms (p=0.019). The related data are shown in Table 3.

The data on comorbidity are shown in Table 4. While there was no significant difference between the two groups in terms of comorbidities other than ADHD, ADHD was statistically significantly higher in the group without psychotic symptoms (p=0.023).

Recurrent episodes, duration of hospitalization, getting into remission with clozapine, CGI severity, CGI improvement, CGAS, CYRM, and comorbidities were evaluated in univariate logistic regression analysis in predicting poor judgment (Table 5). In the multivariate logistic regression model, CGI disease severity and CGI improvement were statistically significant in predicting poor judgment. CGI severity increases by 6.16 times

Table 2: Clinical variables

			With psychotic symptoms (n=46)	Without psychotic symptoms (n=14)	χ^2	p
			n (%)	n (%)		
Recurrent episode[a]						0.492
With			11 (23.9)	5 (35.7)		
Without			35 (76.1)	9 (64.3)		
			Min–Max (Mean±SD)	Min–Max (Mean±SD)		
Hospitalization length[b]			4–200 (40.11±37.33)	4–45 (23.00±11.95)	-1.478	0.139
Time to remission[b]			5–186 (37.15±35.28)	6–38 (18.64±10.63)	-1.879	0.06
	n	%	n (%)	n (%)		
Decreased need for sleep[a]						0.617
Yes	54	90	42 (91.3)	12 (85.7)		
No	6	10	4 (8.7)	2 (14.3)		
Increased speech[a]						0.128
Yes	48	80	39 (84.8)	9 (64.3)		
No	12	20	7 (15.2)	5 (35.7)		
Irritability[a]						0.155
Yes	45	75	32 (69.6)	13 (92.9)		
No	15	25	14 (30.4)	1 (7.1)		
Motor hyperactivity[a]						0.086
Yes	44	73.3	31 (67.4)	13 (92.9)		
No	16	26.7	15 (32.6)	1 (7.1)		
Elevated mood[a]						**0.006***
Yes	43	71.7	29 (63)	14 (100)		
No	17	28.3	17 (37)	0 (0)		
Grandiosity[a]						0.195
Yes	40	66.7	33 (71.7)	7 (50)		
No	20	33.3	13 (28.3)	7 (50)		
Suspiciousness[a]						<**0.001***
Yes	39	65	36 (78.3)	3 (21.4)		
No	21	35	10 (21.7)	11 (78.6)		
Increased goal-directed activity[b]					0.034	0.854
Yes	33	55	25 (54.3)	8 (57.1)		
No	27	45	21 (45.7)	6 (42.9)		
Hypersexuality[a]						0.193
Yes	9	15	5 (10.9)	4 (28.6)		
No	51	85	41 (89.1)	10 (71.4)		
n=60						
Preliminary diagnosis[c]					60.00	<**0.001***
Psychotic mania						
BD manic episode			37 (80.4)	0 (0)		
Psychotic disorder			0 (0)	14 (100)		
Discharge diagnosis[b]						<**0.001***
Psychotic mania			46 (100)	4 (28.6)		
BD manic episode			0 (0)	10 (71.4)		

Min: Minimum; Max: Maximum; SD: Standard deviation; BD: Bipolar disorder; a: Fisher's exact test; b: Mann–Whitney U test; c: Pearson's Chi-squared test; *: P<0.05.

Table 3: Comparison of data related to scale scores

	With psychotic symptoms (n=46)	Without psychotic symptoms (n=14)	z	p
	Min–Max (Mean±SD)	Min–Max (Mean±SD)		
CGI				
Severity	5–6 (5.22±0.417)	5–6 (5.29±0.469)	-0.525	0.600
Improvement	1–3 (1.87±0.687)	1–3 (2.00±0.784)	-0.572	0.567
CGAS	46–97 (70.63±12.02)	54–88 (73.71±10.97)	-0.963	0.335
CYRM	31–59 (49.17±7.41)	38–58 (48.50±5.68)	-0.648	0.517
SBS	0–7 (1.20±1.91)	0–6 (1.79±1.80)	-1.506	0.132
YMRS hospitalization	21–54 (32.72±7.90)	14–49 (27.43±8.36)	-2.232	**0.026***
YMRS discharge	0–38 (4.09±5.81)	0–15 (4.29±4.92)	-0.185	0.853
YMRS remission	0–6 (0.91±1.34)	0–6 (1.07±1.73)	-0.029	0.977
PANSS hospitalization				
Positive	14–43 (26.76±5.23)	9–30 (17.29±6.08)	-4.204	<**0.001***
Negative	7–32 (12.76±5.23)	7–17 (10.36±2.46)	-1.421	0.155
Psychopathology	23–64 (36.13±7.28)	24–42 (31.64±5.75)	-2.163	**0.031***
Total	49–115 (75.87±14.52)	43–87 (59.29±13.5)	-3.534	<**0.001***
PANSS discharge				
Positive	7–35 (9.28±4.16)	7–14 (8.86±2.143	-0.304	0.761
Negative	7–16 (9.15±2.22)	7–11 (8.36±1.21)	-0.727	0.467
Psychopathology	16–41 (21.46±3.72)	16–31 (22.57±4.16)	-0.794	0.427
Total	30–92 (39.89±9.08)	31–55 (39.79±6.60)	-0.096	0.923
PANSS remission				
Positive	7–13 (7.33±0.99)	7–9 (7.50±0.76)	-1.422	0.155
Negative	7–21 (9.20±3.63)	7–11 (7.86±1.16)	-0.252	0.801
Psychopathology	16–34 (19.72±4.02)	16–29 (21.71±3.33)	-2.348	**0.019***
Total	30–63 (36.24±7.51)	30–48 (37.07±4.48)	-1.483	0.138

Min: Minimum; Max: Maximum; SD: Standard deviation; CGI: Clinical Global Impression; CGAS: Children Global Assessment Scale; CYRM: Child and Youth Resilience Measure; SBS: Suicide Behaviour Scale; YMRS: Young Mania Rating Scale; PANSS: Positive and Negative Syndrome Scale; Z: Mann–Whitney U test; *: P<0.05.

with every 1 point increase compared with the absence of poor judgment [OR=6.16, 95% confidence interval=(1.55–24.55), p=0.010]. The probability of poor judgment increased by 2.96 times as CGI improvement increased by 1 point each [OR=2.96, 95% confidence interval=(1.17–7.50), p=0.022].

In the multivariate logistic regression model, only recurrent episodes were statistically significant in predicting auditory hallucinations. The auditory hallucination group was less likely to have recurrent episodes [OR=0.23, 95% confidence interval =(0.06–0.86), p=0.029].

Except for CGI severity, the p-value was greater than 0.25 for all other variables in predicting persecutory delusions. Although the CGI severity score increased by 3.25 times in each unit increase, this was not statistically significant [OR=3.25, 95% confidence interval=(0.89–11.90), p=0.075].

DISCUSSION

In this study, psychotic symptoms were observed in 76.7% of the cases, but we expected more frequent psychotic symptoms in children and adolescents with BD. This finding is consistent with the literature reporting that the rate of psychotic symptoms in BD in children and adolescents was 40% (25,26) and that it ranged from 16% to 60% (26–28). In a study investigating the relationship between the phenomenology of BD and the age at which the disease began, the fact that psychotic features were higher in adolescent-onset cases than in adult-onset cases supports our study (29). Finally, this finding supports our hypothesis that the onset of BD in children and adolescents progresses with psychotic symptoms, unlike adults.

Table 4: Data on comorbidity

	n	%	With psychotic symptoms (n=46)		Without psychotic symptoms (n=14)		χ^2	p
			n	%	n	%		
Depression[a]							0.373	0.542
Yes	30	50	22	47.8	8	57.1		
No	30	50	24	52.2	6	42.9		
ADHD[a]							5.153	**0.023***
Yes	27	45	17	37	10	71.4		
No	33	55	29	63	4	28.6		
Enuresis[b]								0.190
Yes	17	28.3	11	23.9	6	42.9		
No	43	71.7	35	76.1	8	57.1		
Social anxiety disorder[b]								0.685
Yes	10	16.7	7	15.2	3	21.4		
No	50	83.3	39	84.8	11	78.6		
Separation anxiety disorder[b]								0.133
Yes	6	10	3	6.5	3	21.4		
No	54	90	43	93.5	11	78.6		
Generalized anxiety disorder[b]								0.617
Yes	5	8.3	4	8.7	2	14.3		
No	55	91.7	42	91.3	12	85.7		
OCD[b]								1.000
Yes	5	8.3	4	8.7	1	7.1		
No	55	91.7	42	91.3	13	92.9		
ODD[b]								1.000
Yes	5	8.3	4	8.7	1	7.1		
No	55	91.7	42	91.3	13	92.9		
CD[b]								1.000
Yes	5	8.3	4	8.7	1	7.1		
No	55	91.7	42	91.3	13	92.9		
PTSD[b]								1.000
Yes	4	6.7	3	6.5	1	7.1		
No	56	93.3	43	93.5	13	92.9		
Encopresis[b]								0.133
Yes	3	5	1	2.2	2	14.3		
No	57	95	45	97.8	12	85.7		
Panic disorder[b]								0.415
Yes	2	3.3	1	2.2	1	7.1		
No	58	96.7	45	97.8	13	92.9		

ADHD: Attention deficit hyperactivity disorder; OCD: Obsessive–compulsive disorder; ODD: Oppositional defiant disorder; CD: Conduct disorder; PTSD: Posttraumatic stress disorder; *: P<0.05; a: Pearson's Chi-squared test; b: Fisher's exact test.

In our study, the male gender was found to be significantly higher in the psychotic group. Similarly, psychotic features are twice as high in male adolescent bipolar inpatients (30). In contrast, no gender differences were reported in terms of psychotic features (31).

When we evaluated the manic symptoms, decreased need for sleep was the most common.

Table 5: Univariate and multivariate logistic regression analysis results of variables predicting poor judgment

Variable	Univariate logistic regression analysis			Multivariate logistic regression analysis		
	Uncorrected OR	95% CI	p	Corrected OR	95% CI	p
Recurrent episode						
Yes	1.50	0.47–4.84	0.494			
No	Reference					
Length of hospitalization	1.01	0.99–1.03	0.109			
Remission with clozapine						
Yes	4.00	0.67–23.94	0.129			
No	Reference					
CGI severity	7.08	1.87–26.87	**0.004***	6.16	1.55–24.55	**0.010***
CGI improvement	3.17	1.33–7.54	**0.009***	2.96	1.17–7.50	**0.022***
CGAS	0.96	0.92–1.01	0.126			
CYRM	0.95	0.88–1.03	0.191			
Number of comorbidities	1.11	0.78–1.56	0.565			
Comorbidity						
Yes	2.26	0.43–11.98	0.339			
No	Reference					

CI: Confidence interval; OR: Odds ratio; CGI: Clinical Global Impression; CGAS: Children Global Assessment Scale; CYRM: Child and Youth Resilience Measure; *: P<0.05.

These data are consistent with the study reporting that decreased need for sleep is the second most common symptom (39%) (25). In addition, another study reported that decreased need for sleep is a common symptom in both adolescent and adult age groups (32). In our study, increased speech was the second most common symptom and was consistent with the literature (25). While the rate of irritability was the third most common symptom with 67%, it was found to be consistent with studies indicating that irritability is a common symptom in pediatric BD (33,34), but not with studies reporting that irritability is the most common symptom in children and adolescents (35–38). Considering the studies reporting that irritability is seen more frequently in younger ages, the higher age group in our sample may explain that irritability is the third most common symptom. Our findings are also consistent with a meta-analysis (26), which evaluates the grandiosity rate as 78% and states that hypersexuality is the least sensitive symptom.

Although elevated mood and grandiosity were reported as cardinal symptoms (39), elevated mood was found to be significantly higher in the group without psychotic features in our study. This finding supports our hypothesis that psychotic mania is severe.

Suspiciousness was significantly higher in the psychotic symptoms group. This finding was consistent with the study that reported suspiciousness was significantly higher in adult bipolar patients with psychotic symptoms (40), and the study reported a high rate of paranoid ideas in mania cases beginning in 15–20 years (41). In a study investigating the prodrome period in adolescents, suspiciousness was found to be significantly higher in the prodromal process in psychotic mania (42). The high suspiciousness rate among the first symptoms in our study may be due to the difficulty of separating this period from the prodromal process.

It was found in the literature that the CGI disease severity scale and CGAS score were not affected in the presence of psychotic symptoms, which was compatible with our study (40,43). In a study comparing CGAS scores in children and adolescents with bipolar 1 and 2 disorders (44), the fact that it was lower in bipolar 1 disorder could be considered consistent with the low CGAS score in our study. CGAS score in this study was not compatible with the studies in the literature (45–49). The reason for this was the evaluation of the CGAS score in the remission period in our study.

There is no study on resilience in adolescents with BD. There is also a limited number of studies on adult BD. When we examine studies investigating resilience in adult bipolar cases, it is seen that bipolar cases show statistically significantly lower resilience levels compared with healthy controls (14,50–53). In an adult study comparing schizophrenia and bipolar

subjects with healthy controls, the lowest resilience level was observed in the schizophrenia group (54). In our study, as both groups consisted of severe cases requiring hospitalization, resilience levels may not differ. Further studies are needed to predict the effect of resilience on treatment response.

The hospitalization YMRS score was found to be significantly higher in the psychotic group. This finding is consistent with the data of a study indicating that the YMRS score was significantly higher in adult bipolar patients when accompanied by psychotic symptoms (40). Furthermore, the fact that YMRS scores correlate significantly with disease severity supports our hypothesis (55).

An adult study indicating that PANSS total score and positive subscale score were significantly higher in the psychotic group supports our study (40). In our study, PANSS general psychopathology subscale score was found to be higher in patients without psychotic symptoms at remission status. This finding may be due to the fact that the general psychopathology subscale was not evaluating psychotic symptoms. The fact that there was no difference between the two groups in terms of negative subscale scores in our study may be considered consistent with the study (56), which states that the negative symptoms seen in BD do not last for more than 18 months and their prognostic significance is limited.

While there were 51 (85%) cases with at least one comorbid diagnosis, no statistically significant difference was found between with and without psychotic symptoms. A study shows 76.2% of cases with at least one comorbid diagnosis supports our study (57). Depression as the most common comorbidity in our study is consistent with the data of the study, which states that depression is one of the most common signs of pediatric BD and is often the first symptom (58). In a follow-up study with children with major depressive disorder, 31.7% of the patients reported bipolarity (59). Depressive patients with a family history of BD and no history of mania may be in the prodromal period of BD (60). In our study, no significant difference was found in the groups with and without psychotic symptoms in terms of comorbid depression. This finding is consistent with a study that reported no difference in the group with and without psychotic symptoms in the adult study (61). A study conducted with adolescents investigating the prodrome period of BD supports our study by reporting that there is no difference in the group with and without psychotic symptoms in terms of depression (42).

When we examine the literature, ADHD is a common comorbid diagnosis (5,26,45,57,62–66). The fact that ADHD comorbidity was found to be higher in bipolar patients and stating that patients with ADHD comorbidity had a tendency to exhibit irritable mood rather than elevated mood was consistent with our study (66). Further studies of the high rate of comorbidities between ADHD and bipolarity show that both disorders exhibit the same neurocognitive disorders of executive functions, verbal memory, social cognition, and processing rate.

The probability of poor judgment increases by 6.16 times the CGI disease severity with each score. In the case of poor judgment, we expect the disease to be more severe. The probability of poor judgment increases 2.96 times as the CGI improvement increases with each score. It is a finding that we expect a worse degree of improvement if the judgment is poor. Knowing that poor judgment is seen at a higher rate in the young age group (26) suggests that poor judgment is poor prognostic in this regard, such as early onset age. In an adult study, poor judgment was found to be statistically significant in psychotic patients (40). We found a statistically insignificant correlation with CGI severity in predicting persecutory delusion. For every 1 point in CGI severity, the probability of persecutory delusion increased by 3.25 times. It has been reported that mood-incongruent psychotic features are associated with higher relapse in adults with a history of manic episodes with psychotic features (67). As persecutory delusion is considered mood-incongruent (68), it can be thought that persecutory delusion is a predictor of more serious disease and poor prognosis.

Our study has many limitations. Considering the prevalence of BD in children and adolescents and some of them receiving outpatient treatment, the small sample size is one of our limitations. The number of patients with psychotic symptoms in our study was higher than nonpsychotic bipolar children and adolescents in our study. It was thought that this situation prevented us from finding statistically significant results in the analyses that required a comparison between the two groups. The cases included in our study were children and adolescents diagnosed as bipolar 1 disorder because they showed signs of mania. Therefore, data on bipolar spectrum disorder could not be obtained. As the K-SADS was a semistructured interview form that we used in our study, it was not possible to obtain information about the frequency of these disorders in comorbidities because it did not screen some psychiatric disorders

(somatoform disorder, sexual identity disorder, dissociative disorder, and specific learning disorder) that may be seen in children and adolescents. The Turkish version of BD diagnosis according to the DSM-V classification system could not be used in this study because its validity and reliability were not completed in Turkish. Therefore, some new DSM-V diagnoses (such as DMDD) could not be evaluated. As a result, the increase of goal-directed activity criterion A in DSM-V could not be achieved in all cases.

CONCLUSION

No significant difference was found in both groups in terms of resilience. Poor judgment from manic symptoms and persecutory delusions from psychotic symptoms are findings that should be evaluated because they predict the clinical course. Evaluation of relevant predictors in larger study samples will give more significant results in predicting clinical course in patients with BD.

Contribution Categories		Author Initials
Category 1	Concept/Design	G.K., S.A.
	Data acquisition	S.A., N.Ü.
	Data analysis/Interpretation	G.K., S.A.
Category 2	Drafting manuscript	G.K., C.M.
	Critical revision of manuscript	S.A.
Category 3	Final approval and accountability	S.A.

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