

## Parenting Styles and Psychiatric Disorders in Children of Bipolar Parents

### Abstract

**Background:** Bipolar disorders (BD) in parents can have different effects on children and perhaps as a reason of the incidence of various psychiatric disorders in them and they may show a particular parenting style due to features of their disease. Given a crucial role of parenting style in upbringing children, this study aimed to evaluate different styles of parenting and its relationship with psychiatric disorders in children of parents with bipolar disorder (PBD) compared with controls. **Materials and Methods:** In this case-control study, 500 parents with children aged 6–17 years were included that 250 of them with BD were selected as the case group and 250 of them were healthy as control group. The parents were selected according to the Diagnostic and Statistical Manual of Mental Disorders-5 (DSM-5) by a physician. Psychiatric disorders in children were assessed by The Kiddie Schedule for Affective Disorders and Schizophrenia for school-age children (KSADS). The collected data were analyzed with SPSS (version 20). **Results:** According to KSADS, there was significant difference between two groups of children in depression, mania, attention-deficit hyperactivity disorder, and posttraumatic stress disorder ( $P < 0.05$ ). In authoritative dimension, parenting styles were effective in the incidence of psychosis (odds ratio [OR] [95% confidence interval (CI)]: 0.775 [0.63–0.95]) and led to a decrease of 0.320 times in the chance of oppositional defiant disorder incidence (OR [95% CI]: 0.320 [0.21–0.74];  $P = 0.043$ ) but an increase of 1.129 times in the chance of cigarette/tobacco use (OR [95% CI]: 1.129 [1.02–1.25];  $P = 0.016$ ). **Conclusion:** The chance of psychiatric disorder's incidence in children of PBD was so far more than children of healthy parents. Hence, the incidence of some psychiatric disorders in children can be associated with parenting styles.

**Keywords:** *Bipolar disorder, parenting styles, psychiatric disorders*

### Introduction

Bipolar disorder (BD) is identified by recurrence of mania and depression (high and low moods) which is accompanied by difficulties in activities related to work and other routines such as relationships with others within family or society.<sup>[1]</sup> However, other common experiences also can be occurred within the course of disease.<sup>[2]</sup> The prevalence of BD is about 1%–1.5%.<sup>[3]</sup>

In general, BD can result in impaired individual, family, and social performances. Mental health problems are prevalent among a considerable number of parents.<sup>[4]</sup> The existence of mental disorders, that is, BD can make difficulties for these parents playing their roles as parents, then it can affect the physical and mental health of their children and the children may be at risk of mental injuries as well.<sup>[5]</sup> The sociomental effects of BD in parents and

their genetic background can increase the risk of BD in their children and adolescents up to two times.<sup>[6–10]</sup> Hence, children of BD parents could be identified as a high-risk group.

Given high vulnerability of children and adolescents than other populations, recently the investigators have focused on high-risk populations such as children and adolescents of BD parents and the risk of psychiatric disorders threatening them.<sup>[7]</sup>

On the other hand, the style of upbringing the child in these families can be different due to the absence of the similar ability to play their role as parents, comparing to healthy parents. Given that upbringing and parenting are of the most important factors for creating mental disorders and stability of that in children,<sup>[11]</sup> paying attention to the matter is of importance. Therefore, many studies have considered the role and the effect of family on establishing child characteristics usually in two major aspects

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of the effect of parenting style and the effect of other members of the family in this respect.<sup>[12-14]</sup>

Each family benefits from a particular way of upbringing children individually and socially which is known as parenting style. The parenting styles are patterns to upbringing children which are formed of normal interaction of parents and their response to children behaviors. For example, hostile aggressive parents with their aggressive behaviors and rigorous and severe restrictions to children can cause severe aggression of children. On the other hand, failure to let the child appear sensations can lead to angeriness of the child. Aggression accompanied with no freedom can cause it to manifest in the most severe manner in the child. Thus, parenting style is of the basic components in evolution and upbringing the child and as the context for many aspects of personality, psychological, attitudes, feelings, and habits of people.

Given the effects of parenting styles on creating mental disorders in children and a high risk of psychiatric disorders among children of BD parents, the study of relationship between parenting styles and mental disorders among these children is of importance. The BD parents may show different styles of parenting due to characteristics induced by their disease. On the other hand, given their strong genetic background in these families, there is a higher risk of various types of mood disorders in their children biologically. Thus, the study of different styles of parenting in BD parents seems essential. Therefore, the current study aimed to investigate parenting styles and its relationship with psychiatric disorders in children of BD parents and to compare with control group.

## Materials and Methods

This cross-sectional, case-control study carried out on 250 parents with bipolar disorders (PBDs) having children aged 6–17 years (case group) comparing to 250 healthy parents having children aged 6–17 years (control group) presenting at medical and training centers of Isfahan University of Medical Sciences (IUMS), Isfahan, Iran.

The inclusion criteria for these parents had children aged 6–17 years, the absence of intellectual disability (ID) and chronic physical disease among parents and children, at least one PBD based on the Diagnostic and Statistical Manual of Mental Disorders-5 (DSM-5) as the diagnostic and diagnosis by psychiatric (for case group) and absence of the history of psychiatric disease, not taking mental-related medications, and the absence of psychiatric disorders in parents confirmed by a psychiatrist (for control group) and being consent to participate in the study. Furthermore, those refused to cooperate in the study any more or were not willing to fill out the questionnaire were excluded from the study.

The study was approved by local ethics committee (IUMS) and after obtaining written informed consent from parents,

we recorded baseline demographic characteristics of parents such as age, the relation of the patient to the child (as father or mother), and filled out the questionnaire identifying parenting styles for both groups. Then, we recorded demographic characteristics of the child such as age and sex. Due to limited number of children aged 6–17 years, if there was more than one child aged 6–17 years, we randomly assigned one to the study and recorded the demographic features of the child as well. Then, The Kiddie Schedule for Affective Disorders and Schizophrenia for school-age children (KSADS) questionnaires were filled out for all children assisting the parents and their scores were recorded.

The questionnaire identifying parenting styles was provided by Baumrind *et al.* (1991). The questionnaire consists of 30 questions evaluating three parenting styles of “authoritative,” “authoritarian,” and “permissive.” The score of each ranged from 0 to 4 but total score of the questionnaire ranged from 0 to 120. The validity and reliability of the questionnaire has been approved in Iran.<sup>[15]</sup>

The KSADS questionnaire was used to assess various psychiatric disorders. The questionnaire was a semi-structured interview containing multiple questions. This instrument discloses information related to present diagnosis and diagnoses before. The questionnaire evaluates the diagnoses according to DSM-4. The questionnaire contains questions of screening and determining the criteria assessing specific symptoms of psychiatrics. If there were positive signs, we filled out a complementary list of signs to assess psychopathology in screening interview. The presence and severity of symptoms were determined by combining reports obtained from clinician, parents, and child. Anxiety disorders, malicious behavior, drug abuse, and difficulties in eating and tic disorder are evaluated by this questionnaire.<sup>[16]</sup> This questionnaire was standardized for the Iranian population. The validity and reliability of this questionnaire have been confirmed in the previous studies in Iran.<sup>[17]</sup>

Finally, collected data were analyzed using SPSS software (version 20; SPSS Inc., Chicago, Ill., USA). The frequency (%) and mean  $\pm$  SD (standard deviation) were used to display the data. To compare frequency distribution of the qualitative data between both groups, we used Fisher’s exact test and to compare means of the quantitative data between both groups, we used independent samples *t*-test. Furthermore, univariate analysis was used to adjust confounders (age and sex of the child and the parent). Ultimately, we applied logistic regression to identify the relationship of each demographic factor of the child and the parent and the styles of parenting with the incidence of psychiatric disorders. For all analysis, we considered a significance level of  $< 0.05$ .

## Results

This study included 158 BD mothers (63.2%) and 92 BD fathers (36.8%) with a mean age of

40.19 ± 5.94 years (case group) and 142 healthy mothers (56.8%) and 108 healthy fathers (43.2%) with a mean age of 40.30 ± 6.52 years ( $P > 0.05$ ). In addition, there was no difference between the children in both groups in age distribution and mean age ( $P > 0.05$ ) [Table 1]. Moreover, the children in both groups were diagnosed with 1–7 psychiatric disorders. In case group, 48.4% of children were suffering from 1 to 2 mental disorders

**Table 1: Determination and comparison of demographic information of child and parent in both groups of the study**

Characteristics	Control group (%)	Case group (%)	P
Parent			
Mother	142 (56.8)	158 (63.2)	0.171
Father	108 (43.2)	92 (36.8)	
Age parent (year)	40.30±6.52	40.19±5.94	0.852
Child			
Girl	124 (49.6)	134 (53.6)	0.421
Boy	126 (50.4)	116 (46.4)	
Child's age (year)	11.58±3.29	11.40±3.05	0.545
7-12	126 (50.4)	129 (51.6)	0.858
12-17	124 (49.6)	121 (48.4)	
Number of psychiatric disorders			
0	135 (54.0)	76 (30.4)	<0.001
1-2	82 (32.8)	121 (48.4)	
≥3	33 (13.2)	53 (21.2)	

and 21.2% of children were suffering from 3 and more disorders comparing to control groups with 32.8% children with 1–2 disorders and 13.2% children with 3 or more disorders ( $P < 0.001$ ).

On the other hand, according to KSADS questionnaire about psychiatric disorders in children, there was significant difference between two groups in depression ( $P = 0.003$ ), mania ( $P = 0.009$ ), attention-deficit hyperactivity disorder (ADHD) ( $P < 0.001$ ), and posttraumatic stress disorder (PTSD) ( $P < 0.001$ ); the prevalence of depression disorder, mania, ADHD, and PTSD was, respectively, 6.8%, 5.2%, 24.4%, and 14% in children with one BD parent while the prevalence of these disorders was, respectively, 2.8%, 0.8%, 11.2%, and 4.8% among children in control group. It should be noted that also the presence of these disorders at the threshold in case group was more than control group [Table 2].

On the other hand, Figure 1 provides frequency distribution of the incidence of clear psychiatric disorders in children aged 7–12 years and 12–17 years in each study group.

Furthermore, the mean score of permissive parenting in case group (mean = 18.20 ± 5.27) was significantly higher than control group (mean = 17.04 ± 5.35) ( $P_{\text{crude}} = 0.016$ ;  $P_{\text{adjusted}} = 0.010$ ) but in authoritarian dimension, the score of case group (mean = 16.93 ± 6.38) was significantly and strongly different from that of control group (mean = 15.45 ± 6.26) ( $P_{\text{crude}} = 0.009$ ;

**Table 2: Determination and comparison of frequency distribution of psychiatric disorders in children in both groups of the study**

Psychiatric disorders	Control group (%)			Case group (%)			P
	1	2	3	1	2	3	
Depression	219 (87.6)	24 (9.6)	7 (2.8)	189 (75.6)	44 (17.6)	17 (6.8)	0.003
Mania	248 (99.2)	0 (0.0)	2 (0.8)	236 (94.4)	1 (0.4)	13 (5.2)	0.009
Psychosis	250 (100.0)	0 (0.0)	0 (0.0)	248 (99.2)	0 (0.0)	2 (0.8)	0.499
Panic	244 (97.6)	0 (0.0)	6 (2.4)	234 (93.6)	3 (1.2)	13 (5.2)	0.055
Separation anxiety	210 (84.0)	19 (7.6)	21 (8.4)	215 (86.0)	7 (2.8)	28 (11.2)	0.106
Social anxiety	204 (81.6)	15 (6.0)	31 (12.4)	198 (79.2)	22 (8.8)	30 (12.0)	0.489
Acrophobia	236 (94.4)	4 (1.6)	10 (4.0)	228 (91.2)	8 (3.2)	14 (5.6)	0.301
GAD	221 (88.4)	6 (2.4)	23 (9.2)	212 (84.8)	10 (4.0)	28 (11.2)	0.432
Obsession	233 (93.2)	5 (2.0)	12 (4.8)	218 (87.2)	9 (3.6)	23 (9.2)	0.078
Enuresis	238 (95.2)	2 (0.8)	10 (4.0)	225 (90.0)	8 (3.2)	17 (6.8)	0.176
Fecal incontinence	249 (99.6)	0 (0.0)	1 (0.4)	246 (98.4)	1 (0.4)	3 (1.2)	0.365
Anorexia (anorexia nervosa)	246 (98.4)	1 (0.4)	3 (1.2)	245 (98.0)	1 (0.4)	4 (1.6)	0.930
Bulimia nervosa	250 (100.0)	0 (0.0)	0 (0.0)	247 (98.8)	1 (0.4)	2 (0.8)	0.221
ADHD	204 (81.6)	18 (7.2)	28 (11.2)	152 (60.8)	37 (14.8)	61 (24.4)	<0.001
ODD	174 (69.6)	20 (8.0)	56 (22.4)	149 (59.6)	28 (11.2)	73 (29.2)	0.064
Conduct disorder	227 (90.8)	10 (4.0)	13 (5.2)	223 (89.2)	9 (3.6)	18 (7.2)	0.639
Tic disorders	243 (97.2)	2 (0.8)	5 (2.0)	241 (96.4)	3 (1.2)	6 (2.4)	0.861
Cigarette/tobacco use	249 (99.6)	0 (0.0)	1 (0.4)	246 (98.4)	2 (0.8)	2 (0.8)	0.309
Alcohol abuse	241 (96.4)	2 (0.8)	7 (2.8)	237 (94.8)	7 (2.8)	6 (2.4)	0.236
PTSD	233 (93.2)	5 (2.0)	12 (4.8)	203 (81.2)	12 (4.8)	35 (14.0)	<0.001

1: No disorder, 2: Disorder at the threshold (during lifetime), 3: Clear disorder (during lifetime), GDA: Generalized anxiety disorder, PTSD: Posttraumatic stress disorder, ODD: Oppositional defiant disorder, ADHD: Attention deficit hyperactivity disorder

$P_{adjusted} = 0.002$ ). However, authoritative parenting of healthy parents (mean =  $29.96 \pm 6.04$ ) was slightly more than that of BD parents (mean =  $29.50 \pm 6.37$ ). The difference between two groups was not significant statistically ( $P_{crude} = 0.404$ ;  $P_{adjusted} = 0.300$ ). Following adjustment for age and sex of the child and the parent, the difference remained the same [Table 3].

Evaluating the effects of factors including age and sex of the child and the parent, disease of parent (with/without BD) and parenting style, on the incidence of psychiatric disorders in children based on logistic regression indicated that parenting style in authoritative dimension can have an effect on the incidence of psychosis. The more severe authoritative parenting can decrease the chance of psychosis in child (odds ratio [OR] [95% confidence interval (CI)]: 0.775 [0.63–0.95]). In addition, parenting style in permissive dimension can reduce 0.32 times the chance of the incidence of oppositional defiant disorder (ODD) (OR [95% CI]: 0.32 [0.21–0.74];  $P = 0.043$ ) and parenting style in authoritarian dimension can increase 1.129 times the chance of cigarette/tobacco use (OR [95% CI]: 1.129 [1.02–1.25];  $P = 0.016$ ). In addition to this factor (parenting style), other factors such as age and sex of the child and the parent can be effective in the incidence

of some other types of psychiatric disorders [Table 4]. It is considerable that disorders including enuresis, encopresis, social anxiety, anorexia (anorexia nervosa), bulimia nervosa, tic disorder, and alcohol use were not influenced by any of factors above.

### Discussion

The gender distribution of the parent (father and mother) showed no difference in the presence of BD. Moreover, both groups were similar in age of the parent and the age of the child. According to KSADS questionnaire, of 250 children in control group, the frequency of children without the disorder was 54% in control group compared to 30.4% in case group, while the frequency of children with at least one psychiatric disorder was 46% in control group compared to 69.6% in case group. The most common disorders among these children were depression, mania, ADHD, and PTSD which was significantly more prevalent in case group.

In line with this study, many studies have suggested that the incidence of behavioral and emotional problems in children of parents with BD is more frequent than children of healthy parents.<sup>[6,18,19]</sup> In 1983, for the first time, the incidence of ADHD syndrome was reported in a child of patient with BD and since 1988, approximately it has been reported for 27% of children of parents with BD.<sup>[20-22]</sup>

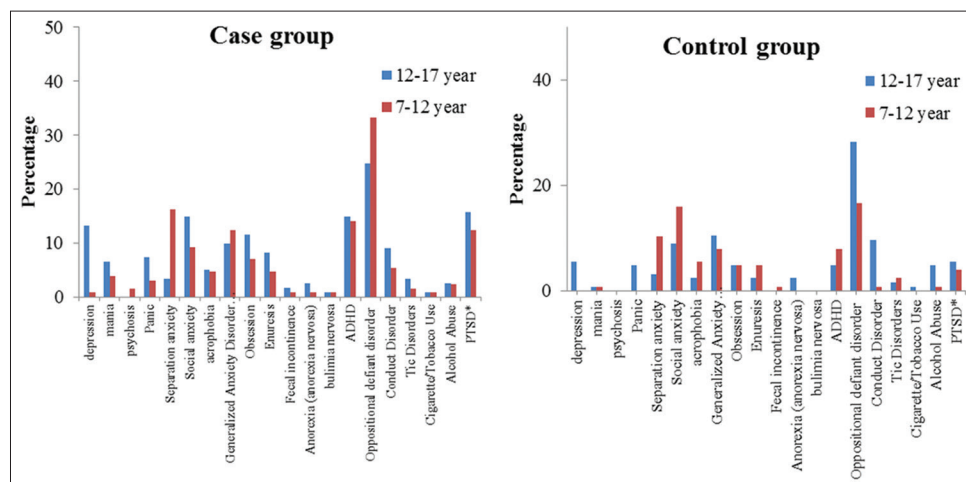
Therefore, due to the occurrence of ADHD and BD, it may assume that the presentations of ADHD in childhood can be accompanied with early BD in a subgroup of patients. Now, the prevalence of ADHD was 24% in case group and 11.2% in control group. In addition, some previous studies have reported mood disorders, ADHD, and depression as the most frequent disorders.<sup>[6,8,19]</sup> A systematic review has estimated the risk of mood disorders in children of patients with BD to be 5%–67% which it was 0%–38% for control group.<sup>[23]</sup>

According to the results of Garcia-Amador *et al.* (2013), mental disorders were reported for about a half of children of parents with BD.<sup>[24]</sup>

**Table 3: Determination and comparison of mean scores of parenting styles in both groups of study**

Style of parenting	Control group	Case group	$P_{crude}$	$P_{adjusted}$
Permissive parenting	17.04±5.35	18.20±5.27	0.016	0.010
Authoritarian parenting	15.45±6.26	16.93±6.38	0.009	0.002
Authoritative parenting	29.96±6.04	29.50±6.37	0.404	0.300

Data were expressed as mean±SD.  $P_{crude}$ : Significant level of *t*-test,  $P_{adjusted}$ : Significant level after adjustment for sex and age of child, parent and age of parent using univariate analysis. SD: Standard deviation



**Figure 1: The frequency (%) of the incidence of clear psychiatric disorders in children aged 7–12 years and 12–17 years in each study group**

**Table 4: Using logistic regression to identify effective factors in the incidence of psychiatric disorders in the child**

Psychiatric disorders	Factors	OR (95% CI)	P*
Depression	Group (reference: Control)	6.5 (2.14-20.05)	0.001
	Parent's age	1.0 (1.01-1.17)	0.019
	Child's age	1.7 (1.38-2.15)	<0.001
Mania	Group (reference: Control)	7.3 (1.63-33.01)	0.009
Psychosis	Child's age	0.30 (0.06-0.96)	0.012
	Authoritative parenting	0.77 (0.63-0.95)	0.016
Panic	Group (reference: Control)	2.5 (1.00-6.90)	0.048
	Child's age	1.2 (1.10-1.53)	0.002
Separation anxiety acrophobia	Child's age	0.73 (0.63-0.83)	0.010
	Parent sex (reference: Father)	0.41 (0.15-1.00)	0.091
GAD	Age parent	1.1 (1.03-1.12)	0.001
Obsession	Group (reference: Control)	2.1 (1.03-4.39)	0.042
	Child's age	1.1 (0.96-1.23)	0.048
ADHD	Group (reference: Control)	3.2 (1.72-6.19)	<0.001
	Child's sex (reference: Girl)	4.3 (2.16-8.59)	<0.001
ODD	Group (reference: control)	1.6 (1.08-2.52)	0.021
	Age parent	1.0 (1.01-1.07)	0.041
	Child's sex (reference: Girl)	2.1 (1.39-3.26)	0.001
	Permissive parenting	0.32 (0.21-0.74)	0.043
Conduct disorder	Group (reference: Control)	1.9 (1.01-4.28)	0.040
	Age parent	1.1 (1.01-1.13)	0.027
	Child's age	1.1 (1.04-1.33)	0.008
	Child's sex (reference: Girl)	2.2 (1.02-4.87)	0.043
Cigarette/tobacco use	Age parent	1.2 (1.04-1.55)	0.021
	Authoritarian parenting	1.1 (1.02-1.25)	0.016
PTSD	Group (reference: Control)	3.2 (1.66-6.52)	0.001
	Child's sex (reference: Girl)	0.48 (0.25-0.93)	0.030

\*The significance level obtained from logistic regression using factors such as age and sex of the child and the parent, presence of BD in parent (for both groups), and parenting styles as independent variables. CI: Confidence interval, OR: Odds ratio, PTSD: Posttraumatic stress disorder, ODD: Oppositional defiant disorder, GAD: Generalized anxiety disorder, ADHD: Attention-deficit hyperactivity disorder

On the other hand, parenting style in two dimensions of neglecting and authoritarian among parents with BD

was more frequent than healthy parents and there was no difference between two groups in authoritative dimension. It should be considered that adjustment for age and sex of the child and the parent led to no change in the results. It can be concluded that age and sex of the child and the parent may not play a role in nurturing and parenting.

It can be identified as a difference between healthy parents and parents with BD in parenting style which needs considerations because it can be originated from family environment and mental condition of the family.<sup>[14]</sup>

Evaluation of effective factors in the incidence of psychiatric disorders showed that disorders such as enuresis, fecal incontinence, social anxiety, anorexia (anorexia nervosa), bulimia nervosa, tic disorder, and alcohol use were not influenced by any of these factors. However, the incidence of some disorders including depression, mania, panic, obsession, ADHD, ODD, and PTSD in children of parents with BD were 1–8 times more than those of healthy parents. Furthermore, the increase in age of the child can play a significant role in increased incidence of disorders including depression, obsession, panic, and conduct disorder. On the other hand, the increase in age of the child can be accompanied with decreased incidence of disorders such as psychosis and separation anxiety. The older parent can play a significant role in the incidence of depression, GAD, conflict anxiety, and conduct disorder.

In line with the current study, many studies reported that sociomental effects of BD in parents with genetic background can double the risk of mental disorders and behavioral problems in children and adolescents.<sup>[25]</sup> The result of a study in Iran indicated that the chance of incidence and prevalence of mood disorders (BD and depression), ADHD, substance abuse disorders, and antisocial characteristic disorder and anxiety disorders in children of parents with BD is 2–5 times more prevalent than control group.<sup>[26]</sup>

Garcia-Amador *et al.* (2013) also showed that BD in parents can be used as a predictor of mental disorder in their children.<sup>[24]</sup>

Moreover, the results of some studies suggested the significant role of age of the child in the incidence of some psychiatric disorders; 15%–21% of children aged 7–10 years can be involved in emotional and behavioral problems.<sup>[27]</sup> Furthermore, research showed that depression and antisocial behaviors in girls were more frequent than boys that can be controlled and reduced by social support.<sup>[28]</sup>

The previous studies indicated that ODD is one of the most common mental/behavioral disorders. The prevalence of ODD is 2%–16% which occurs in preschool or early 7 years old.<sup>[29,30]</sup>

The authoritative parenting style can decrease the chance of psychosis up to 0.775 times while permissive

parenting (neglecting) can decrease it up to 0.320 times. On the other hand, authoritarian parenting may lead to an increase in the chance of cigarette/tobacco use.

In fact, it can be concluded that authoritarian parenting style may decrease adoption and lead to creating behavioral problems in children due to using direct punishing methods, strict control, severe restrictions, unstable and aggressive discipline, and low level of emotional support.<sup>[14]</sup>

The authoritative parenting style is used by parents who are either acceptor or expector; although the parents use some controls for their children, the reason of using these controls is explained and enforcement techniques are used to change behaviors.<sup>[31]</sup> According to literature, this style of parenting can be associated with positive evolutionary outcomes such as more academic achievement, higher self-reliance, lower behavioral bias, and better relationships with peers.<sup>[32]</sup>

In this respect, many studies have confirmed the existence of relationship between parenting style and adaptive behavior. Abar *et al.* suggested that authoritative parenting style can lead to creating higher social and cognitive skills.<sup>[33]</sup>

Furthermore, Rinaldi and Howe showed that parenting styles predict internal and external behavioral problems.<sup>[34]</sup> Kearney *et al.* (2011) concluded that people with severe challenging behaviors had significantly higher scores in psychiatric symptoms than nonpsychobehavioral patients.<sup>[35]</sup> In line with these findings, Talib *et al.* also indicated the effect of parenting styles on psychological-behavioral problems and children's academic performance.<sup>[36]</sup> Aunola and Nurmi also showed that the authoritarian and permissive parenting styles had a positive and significant predictive value in the behavioral problem of fear, the problem of social behavior and aggression, and the authoritative style of parenting, also considered as a negative and significant predictor of the behavioral problem of fear, the problem of social behavior and child aggression.<sup>[37]</sup>

## Conclusion

Therefore, as a final conclusion, it can be argued that in the first place, the chances of developing psychiatric disorders in children of parents with BD are far more than children of healthy parents. However, in these children, some disorders such as depression, ADHD, mania, and PTSD have been more common. In addition, due to the psychological and behavioral problems in these parents, there can be some problems with their progression, which in some cases has a significant effect on the incidence of some psychiatric disorders. In such a way, in the case of authoritative and permissive styles of parenting can lead to reductions in the chances of occurrence of psychosis and conflict, respectively, and in contrast, the authoritarian style may increase the abuse of substances in children.

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## Conflicts of interest

There are no conflicts of interest.

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