ÖZGÜN ARAŞTIRMA ORIGINAL RESEARCH

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INVESTIGATION OF THE RELATIONSHIP BETWEEN ILLNESS PERCEPTION AND CLINICAL CHARACTERISTICS, COPING, SELF-EFFICACY IN CASES DIAGNOSED WITH BIPOLAR DISORDER

BİPOLAR BOZUKLUK TANILI OLGULARDA HASTALIK ALGISININ KLİNİK ÖZELLİKLER, BAŞ ETME VE ÖZYETERLİLİK İLE İLİŞKİSİNİN İNCELENMESİ

Gülin ÖZDAMAR ÜNAL[1], Gizem Çağla AKTAŞ[1], Gökçe İŞCAN[2], İnci Meltem ATAY[1]

[1] Süleyman Demirel Üniversitesi, Tıp Fakültesi, Psikiyatri Ana Bilim Dalı, Isparta, TÜRKİYE

[2] Süleyman Demirel Üniversitesi, Tıp Fakültesi, Aile Hekimliği Ana Bilim Dalı, Isparta, TÜRKİYE

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Öz

Amaç

Birçok fiziksel hastalığın ve bazı ruhsal bozuklukların klinik seyrinde hastalık algısının rolü iyi tanımlanmış olmasına rağmen, şu ana kadar bipolar bozukluk ile ilişkili hastalık algısı hakkında çok az şey bilinmektedir. Bu çalışmada bipolar bozukluk tanısı olan olgularda hastalık algısı, baş etme tarzları ve öz-yeterlilik arasındaki ilişkiyi inceleyerek bu değişkenlerin klinik seyir üzerindeki etkilerini araştırmak amaçlanmıştır.

Gereç ve Yöntem

Bu kesitsel çalışmada, Mart 2021- Eylül 2021 tarihleri arasında bipolar bozukluğu olan 157 katılımcıdan oluşan bir kohortu değerlendirdik. Veri toplama araçları olarak Sosyodemografik Bilgi Formu, Kısa Hastalık Algısı Ölçeği, Özyeterlilik Ölçeği ve Stresle Başa Çıkma Tarzları Ölçeği kullanılmıştır.

Bulgular

Olguların yaş ortalaması 42.08±12.92 yıl idi. Bu katılımcıların 84'ü (%53.5) kadın, 73'ü (%46.5) erkekti. Kısa Hastalık Algısı Ölçeği ile Genel Öz-yeterlilik Ölçeği arasında negatif korelasyon vardı (r=-0.376; p<0.001). Stresle Başa Çıkma Tarzları Ölçeğinin planlı problem çözme (r=-0.286; p<0.001); olumlu yeniden değerlendirme (r=-0.337; p<0.001); kaçma-kaçınma (r=0.216; p=0.020) alt boyutları arasında bir ilişki vardı. Kısa Hastalık Algı Anketini tahmin etmek için lineer regresyon analizi yapıldı, anlamlı bir regresyon modeli olduğu bulundu [F (5,151) =13.769; p<0.001] ve bağımlı değişkenlerdeki varyansın %29'unun bağımsız değişkenler tarafından açıklandığı gözlendi.

Sonuç

Bu çalışma, BB tanılı hastalarda hastalık algılarının özyeterlilik, başa çıkma tarzı ve klinik özellikler ile bağlantılı olduğunu göstermektedir. Olumlu hastalık algılarını artıran ve olumsuz hastalık algılarını azaltan müdahaleler, hastalık sonuçları üzerinde iyileştirici bir etkiye sahip olabilir.

Anahtar Kelimeler: Başa çıkma, Bipolar bozukluk, Duygu odaklı başa çıkma; Hastalık algısı, Öz-yeterlilik, Problem odaklı başa çıkma

Sorumlu yazar ve iletişim adresi /Corresponding author and contact address: G.Ö.Ü. / gulin_ozdamar@hotmail.com
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ORCID IDs of the authors: G.Ö.Ü: 0000-0002-6750-468X; G.Ç.A: 0000-0002-4640-6044; G.İ: 0000-0003-0848-5201; İ.M.A: 0000-0002-5124-5556

Abstract

Objective
Even though the importance of illness perception in the clinical course of many physical diseases and certain mental disorders has been well documented, little is known about illness perception in bipolar disorder. This study reveals the relationship between illness perception, coping styles, and self-efficacy in patients with bipolar disorder. Secondly, to investigate the effects of these variables on the clinical course.

Material and Method
In this cross-sectional study, we evaluated a cohort of 157 subjects with bipolar disorder recruited from March 2021 to September 2021. Illness perception was measured using the Turkish version of the Brief Illness Perception Questionnaire. Self-efficacy was assessed using the Self-Efficacy Scale. Coping was evaluated using the Ways of Coping Questionnaire.

Results
Of 157 patients who had bipolar disorder ages' mean was 42.08±12.92. 84 (53.5%) of these participants were female, 73 (46.5%) of them were male. Brief Illness Perception Questionnaire had a negative correlation between General Self-Efficacy Scale ($p<0.001$; $r=-0.376$); and had a negative correlation between The Ways of Coping Questionnaire's subscales planful problem-solving ($r=-0.286$; $p<0.001$); positive reappraisal ($r=-0.337$; $p<0.001$); escape-avoidance ($r=0.216$; $p=0.020$). Linear regression analysis was performed to predict the Brief Illness Perception Questionnaire, it was found that a significant regression model [$F(5,151)=13.769$; $p<0.001$], and 29%, of the variance in the dependent variable, were explained by the independent variables.

Conclusion
This study demonstrates that illness perceptions are linked with self-efficacy, coping style, and clinical characteristics in patients with BD. Interventions that increase favorable illness perceptions and decrease negative illness perceptions may improve disease outcomes.

Keywords: Bipolar disorder, illness perception, coping, self-efficacy, problem-focused coping, emotion-focused coping

Introduction

Bipolar Disorder (BD) is a mood disorder in which dramatic changes in mood, energy, activity levels, and behavioral and functional impairments are observed (1, 2). Although there are different results regarding the age of onset of the disease, it is thought that the first symptoms appear at the beginning of the twenties (3, 4). It is defined as one of the chronic, serious mental disorders that progress with periods of exacerbation and remission. It has been reported that the lifetime prevalence is 0.6% for Bipolar 1 Disorder, 0.4% for Bipolar 2 Disorder, 1.4% for sub-threshold BD, and 2.4% for Bipolar Spectrum (5). Due to the disease's early onset, chronic nature, and high prevalence, it is one of the primary causes of intellectual disability. It contributes significantly to the global patient burden (6).

In the treatment management of BD, it is essential to focus on the subjective experiences of the patients in order to reduce the symptoms of the disease and prevent relapses. In recent years, an increasing emphasis has been placed on developing self-management strategies for patients with chronic illnesses such as BD, which include behavioral and emotional management of the illness and control of its physical and psychosocial consequences (7-9). A positive perception of illness is that the illness can be controlled with individual effort or treatments. One factor that significantly affects patients' self-management, symptom control, and disease outcomes is their perception of their disease based on coping mechanisms. Illness perception is patients' beliefs about their illness, which vary according to their subjective experiences (10). Leventhal et al. developed the 'Self-Regulation Model' to describe patients' coping methods with their diseases (11). According to this model, there are representations evaluated in five dimensions regarding the identity, cause, duration, treatment-controllability, and disease outcomes in patients (12).

In contrast, the negative perception of illness is the belief that the illness cannot be controlled and will lead to wrong results (10). It has been reported that these differences in perspective affect the patients' treatment compliance, clinical course, and coping mechanisms. Negative labeling causes significant difficulties in the fight against the disease (11). It is emphasized that these effects are linked to complex processes, and further research is needed.

Illness perception is mainly used to evaluate emotional and behavioral responses to somatic diseases (12-16). There are fewer studies investigating the perception of illness in mental illnesses. Most of the existing studies have focused on the relationship between the perception of illness and treatment compliance in BD. Studies have emphasized that determining the disease perceptions of patients with BD and positively changing the perceptions can mediate the improvement of clinical outcomes by increasing the coping with the stress of the disease, compliance with drug treatments, and increasing the continuity of treatment (17-19).

Illness perception may be related to patients' coping mechanisms with life events and may affect the clinical course of patients. Coping mechanisms are cognitive and behavioral efforts to tolerate and minimize stressful situations (20). Lazarus and Folkman defined two types of coping mechanisms: problem-focused and emotion-focused. Problem-focused coping includes generating options for the problem, evaluating the positive and negative aspects of different options, and determining steps to solve the problem. On the other hand, emotion-focused coping is generally a strategy for managing problem-related distress (21).

Self-efficacy is the belief that is effective in determining personal goals and evaluating their abilities, which function as a determinant in people's motivation, emotions, and actions (22). People with a solid sense of self-efficacy are aware of their skills. It is observed that they persist in their actions without giving up when they encounter difficulties and experience failure (23). Previous studies have shown that self-efficacy in BD can significantly affect the clinical course of the disease, functionality, quality of life, coping skills, and treatment management of the disease (24, 25). Identifying the factors associated with self-efficacy in patients with BD may provide critical information for developing appropriate interventions to manage the disease.

Studies have been conducted on the perception of illness covering different physical and mental illnesses. However, as far as we know, there has been no study examining the relationship between illness perception, self-esteem, and coping mechanisms in patients with BD. We hypothesized that low self-esteem, unhealthy coping mechanisms and poor outcomes of the illness may contribute to the negative perception of their illness in patients with BD. This study aims to reveal the perception of illness and its relationship with self-esteem, coping mechanisms and clinical variables among patients with BD, and to identify the associated risk factors. Patients' negative perceptions of illness may lead to treatment nonadherence, decrease in quality of life, decrease in self-esteem, and poor clinical outcomes. Therefore, it is very important to know how patients with bipolar disorder perceive their illness. Identifying risk factors for negative perceptions of illness will contribute to the development of appropriate interventions.

Material and Method

Study Design

This cross-sectional study was conducted between March 2021 and September 2021. Patients with BD, who were followed up by the Süleyman Demirel University Faculty of Medicine, Psychiatry outpatient clinic for at least one year, were included in the study. The participants were informed verbally and in writing about the procedure and purpose of the research. Those who gave consent to participate in the study were included. Data about the diagnosis and clinical course of the patients were obtained from the patient follow-up files. A psychiatric examination and evaluation were performed. Disease diagnoses were confirmed according to DSM-5 diagnostic criteria. The study was approved by the Clinical Research Ethics Committee of Süleyman Demirel University Faculty of Medicine (Date: 03.02.2021; No:55). This study was conducted in a framework that conforms to the Helsinki Declaration.

Participants

Inclusion criteria for the study were: Being older than 18 years, being followed up in the psychiatry outpatient clinic for at least one year with the diagnosis of BD, being in remission (Hamilton Depression Rating Scale (HAM-D) score below 7, Young Mania Rating Scale (YMDS) score below 5) and being literate. Exclusion criteria included being in a manic, depressive, or mixed episode, receiving a score of greater than five on the YMRS or more significant than seven on the HAM-D, having any mental illness other than BD, and failing to respond to more than 5% of the questionnaire's questions. Four patients were excluded from the study because they did not answer more than 5% of the research questions. Two of the patients were excluded from the study because they scored above five on the YMRS, three with a score above seven on the HAM-D, and one with a comorbid obsessive-compulsive disorder. Thus, the study was carried out on 157 patients.

Main Outcome Measure

The sociodemographic form, Young Mania Rating

Scale, Hamilton Depression Rating Scale, Brief İllness Perception Questionnaire, The Ways of Coping Questionnaire, And Self-Efficacy Scale were used to collect data.

The Sociodemographic Form
The researcher completed the sociodemographic form, including age, gender, education level, marital status, monthly income, place of residence, duration of disease, hospitalization, and suicide history.

Young Mania Rating Scale (YMRS)
The 11-item-YMRS, created by Young et al., was used to assess manic symptoms (26). Karadağ et al. conducted a Turkish validity and reliability assessment of the measure (27). The internal consistency coefficient of the Turkish version (Cronbach's alpha) was 0.79.

Hamilton Depression Rating Scale (HAM-D)
HAM-D developed by Hamilton was used to evaluate depressive symptoms (28). The Turkish validity and reliability study of the scale was performed by Akdemir et al. (29).

Brief Illness Perception Questionnaire (B-IPQ)
The scale developed by Broadbent et al. consists of 8 sub-dimensions: Consequences, Timeline, Personal control, Treatment control, Identity, Concern, Comprehensibility, Emotional response (30). Items 1, 2, 3, 4, 5 assess the cognitive representations of the disease; item 6,8 assess the emotional representations of the illness; item 7 assesses the intelligibility of the illness. High scores from the sub-dimensions of the scale indicate a negative perception of illness. The Turkish validity and reliability study of the scale was performed by Karataş et al. (31). In the analyses, we used the total score (0 to 80), with a greater value suggesting more negative illness perceptions (together with decreased adaptive coping and/or reduced illness awareness).

The Ways of Coping Questionnaire (Revised) (WCQ)
The scale developed by Folkman and Lazarus to evaluate coping mechanisms that emerge when faced with a stressor is a four-point Likert-type scale consisting of 66 items and eight subscales (32). The Turkish validity and reliability study of the scale was performed by Durak et al. (33). These subgroups are confrontive coping, distancing, self-controlling, seeking social support, accepting responsibility, escape-avoidance, planful problem-solving, and positive reappraisal. Problem-focused coping is one of the planful problem-solving and confrontive coping subscales, whereas emotional-focused coping consists of distancing, self-controlling, seeking social support, accepting responsibility, escape-avoidance, and positive reappraisal subscales. High scores from the subscales indicate which coping style is used more frequently in stressful situations.

The General Self-Efficacy Scale (GSES)
After Sherer et al. developed the first 23-item form, the scale was revised by Magaletta and Oliver, and a 17-item form was started to be used (34, 35). The scale, for which Yıldırım and İlhan conducted turkish validity and reliability studies, is used to evaluate self-efficacy (36). The scores obtained from the five-point Likert-type scale vary between 17-85. An increase in the scores obtained from the scale indicates increased self-efficacy beliefs.

Statistical Analysis
The SPSS Program for Windows, version 26.0, was used for statistical analysis (SPSS Inc, Chicago, IL). The mean, standard deviation (SD), median, and percent were used to express statistical data (percent). The patient characteristics (e.g., age, number of children, total number of episodes, mania, depression) and overall questionnaire scores were determined using these indices (mean±SD). It will be compared with sociodemographic Chi-square and Student's t-test. The outcome measurements were compared using Spearman (GSES/WCQ/B-IPQ) Correlation. A correlation of 0.10 to 0.29 was regarded minor, 0.30 to 0.49 was considered moderate, and 0.50 to 1.0 was considered good for interpreting the results. The better the fit and hence the correlation, the closer the correlation coefficients. Linear regression analysis was performed to predict the Brief Illness Perception Questionnaire. The median was used for data that did not have a normal distribution (minimum-maximum). $p<0.05$ was used as the level of significance. With an alpha = 0.05 and power = 0.95, the projected sample size needed with this effect size (G Power 3.1 or other software) is approximately N = 134 for this comparison and 157 participants were included to the study.

Results

The mean age of 157 BP patients was 42.08±12.92. Also 53.5% (n=84) of these participants were female. 63.1% of participants (n=99) graduated from high school and higher graduation. 52.9% (n=83) of participants were married. 52.9% (n=83) of participants had bipolar disease for more than 10 years. The results of the analyzes, percentages, and numbers of sociodemographic data according to the B-IPQ are also shown in Table 1.

Table 1 Sociodemographic characteristics of all patients and analysis results with B-IPQ scores.

	mean	SD	p
Age	42.08	12.92	0.545***
Gender	**n (%)**	**mean±SD**	
Women	84 (53.5)	37.64±16.02	0.117*
Men	73 (46.5)	41.77±16.69	
Education			
<High school	58 (36.9)	39.09±16.44	0.568*
≥High school	99 (63.1)	40.30±16.54	
Marital Status			
Single	74 (33.1)	38.67±14.38	**0.046****
Married	83 (52,9)	42.88±16.58	
Widow	22 (14)	34.95±16.37	
Working Status			
Working	98 (62,4)	37.40±18,92	0.265*
Not working	59 (37,6)	41,33±14.69	
Having child/children			
Yes	88 (56,1)	41.58±16.80	0.146*
No	69 (43.9)	37.65±15.87	
Living together with			
Alone	17 (10.8)	38.81±18.41	**0.001****
Parent	53 (33.8)	35.13±14.08	
Spouse	13 (8.3)	57.85±8.99	
Spouse and Children	69 (43.9)	40.65±16.50	
Extended family	5 (3.2)	33.20±19.99	
Monthly income			
≤Minimum wage	70 (44.6)	38.34±12.91	0.103*
>Minimum wage	87 (55.4)	41.07±18.83	
Place of residence			
Rural	67 (42.7)	41.27±16.08	0.374*
Urban	90 (57.3)	38.80±16.75	
Disease duration (years)			
≤4	38 (24.2)	39.39±19.71	0.373**
5-10	36 (22.9)	35.83±18.90	
≥ 10	83 (52.9)	41.80±13.29	
Hospitalization (lifetime)			
No	37 (23.6)	41.35±17.99	0.681*
Yes	120 (76.4)	39.39±16.01	
Suicide History(lifetime)			
No	107 (68.2)	39.51±16.28	0.520*
Yes	50 (31.8)	40.58±16.99	
Smoking			
Yes	62 (39.5)	38.98±18.05	0.953*
No	95 (60.5)	40.42±15.41	
Using Alcohol			
Yes	17 (10.8)	46.76±17.16	**0.021***
No	140 (89.2)	39.01±16.24	

*Mann-Whitney U **Kruskal Wallis Analyses

*** Spearman Correlation (Correlation between B-IPQ). The bold type denotes statistical significance.

Table 2 Median number of episodes, Scale and subscale scores of all participants

Questionnaires' Scores	[Median (minimum-maximum)]
YMRS	2 (1-5)
HAM-D	2 (1-5)
WCQ	63 (15-124)
Planful Problem Solving	7 (1-17)
Positive Reappraisal	9 (1-21)
Self-Controlling	9 (2-19)
Escape-Avoidance	10 (2-23)
Distancing	8 (0-18)
Seeking social support	8 (0-18)
Confrontive coping	7 (1-15)
Accepting responsibility	6 (0-12)
GSES	57 (32-79)
B-IPQ	41 (0-80)
Consequences	6 (0-10)
Timeline	8 (0-10)
Personal control	4 (0-10)
Treatment control	2 (0-10)
Identity	6 (0-10)
Concern	6 (0-10)
Comprehensibility	2 (0-10)
Emotional response	7 (0-10)
The number of total episodes	5 (0-25)
The number of depressive episodes	2 (0-15)
The number of manic episodes	2 (0-13)
The number of hypomanic episodes	0 (0-5)
The number of mixed episodes	0 (0-2)

YMRS: Young Mania Rating Scale, HAM-D: Hamilton Depression Rating Scale, B-IPQ: Brief Illness Perception Questionnaire, WCQ: The Ways of Coping Questionnaire, GSES: The General Self-Efficacy Scale

As a result, there were significant differences between marriage status and B-IPQ scores (p=0.046). In the post-hoc analysis, married participants with the bipolar disease had statistically significantly higher B-IPQ scores (p=0.023). The patients who lived with only a spouse had statistically significantly higher B-IPQ scores than all living types. The participants using alcohol had higher B-IPQ scores than non-using participants (p=0.021).

The mean scores of YMRS and HAM-D scores were 2.19±0.95; 2.37±0.89, respectively, so all patients were in remission. In two questionnaires, 5 was the maximum score. GSES mean score was 56.62±8.63, and B-IPQ means the score was 39.85±16.46. Median scores of all scales and subscales are in Table 2.

B-IPQ had a low and statistically significant positive correlation with the number of total episodes (r=0.235;

Table 3 Median number of episodes, Scale and subscale scores of all participants

	r	p
WCQ subscales		
Self-controlling	-0.146	0.069
Escape-avoidance	**0.216**	**0.020**
Planful problem-solving	**-0.286**	**<0.001**
Positive reappraisal	**-0.337**	**<0.001**
Distancing	-0.101	0.210
Seeking social support	-0.101	0.209
Confrontive coping	-0.095	0.237
Accepting responsibility	-0.093	0.245
GSES	-0.376	**<0.001**
The number of total episodes	**0.235**	**0.003**
The number of depressive episodes	**0.276**	**<0.001**
The number of manic episodes	-0.017	0.828
The number of hypomanic episodes	**0.251**	**0.002**
The number of mixed episodes	0.154	0.055
Disease duration	0.105	0.221
Hospitalization history	-0.020	0.820
Suicide history	0.055	0.527
Age	-0.049	0.545

YMRS: Young Mania Rating Scale, HAM-D: Hamilton Depression Rating Scale, B-IPQ: Brief Illness Perception Questionnaire, WCQ: The Ways of Coping Questionnaire, GSES: The General Self-Efficacy Scale

p=0.003); the number of depressive episodes (r=0.276, p<0.001) and the number of hypomanic episodes episodes (r=0.251, p=0.002). There was a moderate and statistically significant negative correlation between B-IPQ and GSES (r=-0.376, p<0.001); also, low/moderate negative statistically significant correlation between B-IPQ and WCQ's subscales as planful problem solving (r=-0.286, p<0.001); positive reappraisal (r=-0.337, p<0.001). There was positively and statistically significant correlation between B-IPQ and escape-avoidance subscale (r=0.216, p=0.020). All details were shown in table 3.

A multiple linear regression model was used to identify independent predictors of illness perception in patients with BD. The model fit was assessed using appropriate residual and goodness of fit statistics (table 4). There was a significant regression model with B-IPQ and other correlated variables [F (5,151) =13.769; p<0.001], and 29% of the variance in the dependent variable were explained by the independent variables by backward type of regression. This regression showed us to predict illness perception with escape-avoidance, GSES score, and the number of hypomania episodes.

Discussion

This study aimed to understand better how patients with BD perceive their disease. We examined the links between illness perception and clinical course and the relationships between coping styles and self-efficacy. Our findings correlated a negative illness perception to lower self-esteem, more disease episodes, and more manic and depressive episodes. While increases in the planful problem solving and positive reappraisal

Table 4 Multiple linear regression analysis of 4 models of WCQ subscales, GSES scales, episode types, by B-IPQ.

Model		B	S.E	β	p
1	(Constant)	68.398	7.908		**<0.001**
	Escape-Avoidance	0.911	0.284	0.243	**0.002**
	Planful problem solving	-0.663	0.390	-0.156	0.091
	Positive Reappraisal	-0.649	0.365	-0.165	0.077
	GSES	-0.546	0.134	-0.294	**<0.001**
	The number of total episodes	0.511	0.399	0.125	0.202
	The number of depressive episodes	-0.107	0.713	-0.015	0.881
	The number of hypomanic episodes	3.917	1.855	0.156	0.328
	Using Alcohol	2.136	2.178	0.070	**0.036**
2	(Constant)	68.383	7.881		**<0.001**
	Escape-Avoidance	0.905	0.280	0.241	**0.002**
	Planful problem solving	-0.666	0.388	-0.157	0.088
	Positive Reappraisal	-0.644	0.362	-0.164	0.077
	GSES	-0.545	0.133	-0.294	**<0.001**
	The number of total episodes	0.470	0.287	0.115	0.104
	The number of hypomanic episodes	3.862	1.811	0.154	**0.035**
	Using Alcohol	2.149	2.169	0.070	0.323
3	(Constant)	68.778	7.871		**<0.001**
	Escape-Avoidance	0.988	0.268	0.263	**<0.001**
	Planful problem solving	-0.673	0.388	-0.158	**<0.001**
	Positive Reappraisal	-0.678	0.361	-0.173	0.085
	GSES	-0.552	0.133	-0.298	0.062
	The number of total episodes	0.446	0.286	0.109	**<0.001**
	The number of hypomanic episodes	3.736	1.807	0.149	0.121
4	(Constant)	71.003	7.777		**<0.001**
	Escape-Avoidance	1.023	0.268	0.273	**<0.001**
	Planful problem solving	-0.711	0.389	-0.167	0.070
	Positive Reappraisal	-0.677	0.362	-0.172	0.064
	GSES	-0.552	0.133	-0.298	**<0.001**
	The number of hypomanic episodes	4.400	1.764	0.176	**0.014**

GSES: The General Self-Efficacy Scale. The bold type denotes statistical significance.

subscale scores were associated with a decrease in negative illness perception, increases in the escape-avoidance subscale score were associated with an increase in negative illness perception.

The self-regulation model has been used to understand the emotional and behavioral responses of individuals with somatic diseases to their illness. This approach has recently been used to explore

how people with mental illnesses such as psychosis, eating disorders, depression, and BD perceive their illness. There are limited studies examining the perception of illness in patients with BD. For example, Oflaz et al. examined the relationship between illness perception and dropout (19). They reported that the perceptions of the disease in the domains of disease outcomes, treatment control, identity, and emotional representation differ between dropout patients with BD and those who adhere to treatment. Hou et al., on the other hand, reported that patients who did not adhere to medication believed that their disease harmed their lives and would have a long-term effect more than those who adhered to medication (37). Lobban et al. demonstrated that patients with BD lacked personal control over their mood swings and felt themselves making fewer attempts to improve, reporting higher levels of depression (38). Averous et al. revealed that patients with BD who had a positive impression of the treatment control, had less negative feelings about their disease, had a lower sense of consequences, and had a better understanding of the diagnosis were more committed to treatment (17). As far as we know, no previous research has investigated the relationship between BD patients' perceptions of illness and self-efficacy and coping mechanisms.

Our study observed that married participants had higher illness perception scores; single participants also had higher personal control and treatment control scores. Contrary to our findings, many previous studies have shown that marriage has beneficial effects on health, that married individuals have longer survival times and a lower prevalence of health problems than unmarried individuals (39). In managing chronic diseases, the family is the critical source of influence. According to research findings, the structure and quality of the couple's relationship are among the elements that influence how chronic disease patients perceive their illness (40). In BD, one of the chronic mental diseases, lifestyle and role changes might occur, which can be difficult for the couple's relationship (41). Patients' emotional states may swing, causing them to occasionally fail to fulfill the tasks demanded by the couple's relationship and to meet their partners' expectations (42). The difficulties and conflicts experienced by the patients in their marital relationships may contribute to their difficulties in coping with their illness and negatively perceive their illness.

Another remarkable finding in our study was that negative perceptions of the disease increased as the number of disease episodes increased. Accumulated mood episodes may significantly impact patients' prognosis, treatment, and how they view their illness. Experiencing more than ten episodes was a significant predictor of disability and dysfunction in the Systematic Treatment Development Program (STEP-BD) population (43). Due to BD's symptoms, their relapsing and remitting course, residual symptoms between episodes, related unemployment, loss of productivity, impaired social functioning, low quality of life, and disability, a negative perception of the disease may develop in patients. Patients who have unfavorable attitudes toward coping with and managing their disease and consider it dangerous may exhibit treatment noncompliance, a dropout from follow-up clinics, and poor clinical results. (44).

Self-efficacy, defined as a person's perception of their skill level and what they can do with it, can influence an individual's general perspective of the disease, affecting self-care activity regulation and treatment management. According to the current study, negative illness perceptions were associated with lower self-efficacy. In the qualitative study of Lim et al., it was observed that as a result of low self-efficacy, BD patients perceived their illness negatively and distrusted their ability to manage their illness (45). Similar to our findings, it was suggested by Lau-Walker (2006) that the perception of illness can predict self-efficacy (46).

Our study highlights the primary role of coping strategies as determinants of negative illness perceptions. Individuals' coping styles affect how they appraise and cognitively perceive health threats (47). Escape-avoidance, GSES scores and a total number of episodes were found as predictors of the results of the perception of illness. Although the positive reappraisal subscale was not a predictor in the regression, it should be known that positive reappraisal to the disease decreases the illness perception.

This study has several limitations that may affect its findings. We did not assess variations in illness perceptions, self-efficacy, or coping mechanisms across several effective phases of BD, including depression, mania, mixed episodes, and remission. A cross-sectional design was used to collect data. Additional study with larger, more representative samples of patients with BD is necessary to replicate and validate these findings. Despite these limitations, the present study has several strengths. One of the strengths of this study is to consider self-esteem, coping mechanisms, and clinical variables in the illness perceptions of BD patients. Our findings provide a more nuanced understanding of this issue,

as there are limited studies examining the perception of illness in patients with BD, one of the serious mental disorders.

We recommend that such studies be conducted with different BD patient groups and with a larger sample to increase the data's reliability and make the findings more generalizable. Qualitative research is necessary to have a comprehensive understanding of BD patients' illness views. Further research concentrating on patients at various stages of the disease can be conducted to determine how patients view BD.

This research adds to the literature on illness models in severe mental illness by investigating the relationship between illness perception and clinical features, self-efficacy, and coping mechanisms in patients with BD. Physicians should consider that their patients' perceptions of the disease may affect the outcome of the disease. Perceiving the disease as a frightening and threatening situation may negatively affect the course and prognosis of the disease. In order to make the perception of illness more positive and less threatening, patient-centered approaches including strategies to improve and increase self-efficacy and coping skills should be developed.

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Conflict of Interest Statement
The authors have no conflicts of interest to declare.

Ethical Approval
The Clinical Research Ethics Committee of Süleyman Demirel University Faculty of Medicine approved this study (Date: 03.02.2021; No:55). The study was conducted in line with the principles of the Helsinki Declaration.

Consent to Participate and Publish
Written informed consent was obtained from all the subjects before the interview. If the patients have legal representatives or guardians, their consent was obtained.

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Availability of Data and Materials
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Authors Contributions
GÖÜ: Conceptualization; Formal analysis; Investigation; Methodology; Validation; Visualization; Writing-original draft.

GÇA: Data curation; Visualization; Writing-original draft.

Gİ: Investigation; Validation; Writing-original draft.

İMA: Conceptualization; Formal analysis; Investigation; Methodology; Project administration; Resources; Supervision; Validation; Writing-review & editing.

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