DOI: 10.37990/medr.1624111 Med Records 2025;7(2):346-53

MEDICAL RECORDS-International Medical Journal

Research Article

The Relationship Between Antipsychotic Use and Functionality in Patients with Bipolar Disorder: A Naturalistic Observational Study

Hasan Unver, Mehmet Ridvan Varli, Tayfun Oz, Safiye Zeynep Tatli, Ibrahim Gundogmus

Ankara Etlik City Hospital, Department of Psychiatry, Ankara, Türkiye

Abstract

Aim: The aim of this study is to investigate the impact of antipsychotic use on functioning and medication adherence in patients with bipolar disorder (BD) in remission.

Material and Method: The study included 142 patients with BD who were diagnosed with remission according to DSM-5 criteria. The patients were administered various scales, including the Young Mania Rating Scale (YMRS), Hamilton Depression Rating Scale (HAM-D), Brief Psychiatric Rating Scale (BPRS), Bipolar Disorder Functioning Scale, and Morisky Medication Adherence Scale. Study participants had a HAM-D score of less than 7, a YMRS score of less than 4, and no manic, depressive, or hypomanic symptoms in the past 6 months.

Results: 50.7% of study participants were female. The results showed that those not taking antipsychotics were more likely to live with someone, while those taking antipsychotics were more likely to be alone and have lower incomes. No important difference was found when patients and controls were examined in terms of gender, employment status or disease-related parameters. Antipsychotic users had higher scores in emotional functioning, whereas non-users had higher scores in family and friendships, social activities, and general functioning. Medication adherence correlated positively with social relationships but negatively with emotional, intellectual, and sexual functioning. Female gender and antipsychotic use were identified as significant predictors of overall functioning.

Conclusion: This study highlights that while antipsychotics are beneficial during the acute phase of BD, their long-term impact on functioning during remission should not be ignored. The results demonstrate the importance of an individualized treatment strategy that balances symptom management with quality of life and regularly reassesses the need for antipsychotic treatment in long-term care.

Keywords: Antipsychotic, bipolar disorder, functioning, medication adherence, treatment

INTRODUCTION

Bipolar disorder (BD) is a chronic illness that occurs with manic, depressive and mixed episodes. It commonly begins with a depressive period at a young age and is almost always diagnosed after a manic or mixed episode. It is identified by repetitive periods of illness during which the person may continue to live with subthreshold symptoms or in a euthymic state (1). Recurrent episodes seen in BD cause disability by negatively affecting the person's functionality over time. BD is ranked tenth by the World Health Organization among illnesses that impair functioning (1). The lifetime prevalence of BD has been reported to be approximately 1%. More recent data report that bipolar spectrum disorder affects 6% of the population (2).

Initially, therapy for BD focuses on stabilizing the patient's condition in the acute phase (3). Once acute stabilization is achieved, treatment goals aim to prevent relapses, reduce subthreshold symptoms and improve work and social functioning. However even after receiving treatment, patients frequently still experience functional and quality of life impairments (4). Impaired functioning increases the likelihood of disability and death in patients with BD. For this reason, functional

CITATION

Unver H, Varli MR, Oz T, et al. The Relationship Between Antipsychotic Use and Functionality in Patients with Bipolar Disorder: A Naturalistic Observational Study. Med Records. 2025;7(2):346-53. DOI:1037990/medr.1624111

Received: 22.01.2025 **Accepted:** 22.03.2025 **Published:** 08.05.2025

Corresponding Author: Hasan Unver, Ankara Etlik City Hospital, Department of Psychiarty, Ankara, Türkiye

E-mail: hasanunver.1989@gmail.com

impairments can become the main issues in BD and must be addressed in the treatment process (5).

After the first manic or mixed episode of BD, many patients require long-term prophylactic treatment to avoid future flare-ups. In spite of recent pharmacological advances, treatment adherence remains a critical factor in determining treatment outcomes. Nonadherence rates to long-term pharmacotherapy for BD have been reported to range from 20% to 66%, with an average nonadherence rate of 41% (6-8). Nonadherence to therapy is a common cause of relapse and leads to negative outcomes such as increased outpatient visits, rehospitalizations, decreased social functioning, and suicide (9-12). Moreover, nonadherence to treatment increases the utilization and costs of health services (13). However, it is known that there are various reasons for nonadherence to treatment, such as side effects. Therefore, it is critical to examine the link between antipsychotics used in the treatment of BD and treatment adherence. Studies examining the relationship between mood stabilizers and antipsychotic treatment on functioning and medication adherence in BD are limited (14,15). Early intervention with antipsychotics, especially during the acute phase, may help improve functioning, but the long-term impact of these medications on compliance and functioning is still unclear (16). In this context, we investigate the effects of antipsychotics used to treat BD on functionality and compliance (17).

As a result of all this data, the current research focuses on the effects of antipsychotics on functionality and medication compliance in BD. It aims to evaluate the differences in disease severity, functionality level, and medication compliance with the use of antipsychotics in BD in outpatients in remission.

MATERIAL AND METHOD

This cross-sectional study was led by the Department of Psychiatry at Ankara Etlik City Hospital.

Participant: This research was planned with patients diagnosed with BD who were followed up in the psychiatry department of Ankara Etlik City Hospital. All participants were clinically interviewed by two experienced clinicians before being enrolled in the study. This study included individuals diagnosed with BD according to the Diagnostic and Statistical Manual of Mental Disorders-5 (DSM-5). The participants were individuals who applied to the polyclinic as outpatients, were between the ages of 18-65, and were at least primary school graduates. The volunteers who participated in the study were those who had a HAM-D score <7 and a YMRS score <4 and who had not shown manic, depressive or hypomanic symptoms in the last 6 months. The individuals included in the study had been followed up in our hospital's psychiatry clinic for the last 1 year. Exclusion criteria of the study were delirium, dementia, amnestic disorders, mental retardation or other organic mental disorders, autism spectrum disorders, alcohol or substance dependence, schizophreniform and other psychotic disorders, pregnancy or puerperium in female patients, unregulated systemic or metabolic diseases. Patients with a past history of these conditions who are currently stable and well-controlled were not excluded. This approach was adopted to minimize confounding effects on functionality and medication adherence, thereby ensuring that the observed outcomes are more directly attributable to the effects of antipsychotic treatment in bipolar disorder. 142 patients were included in this research. 108 of those included in the research were using antipsychotics and 34 were not using antipsychotics.

Procedure: This study was carried out by acquiring consent paperwork from patients who applied to Ankara Etlik City Hospital Psychiatry Outpatient Clinic and had been identified with BD consistent with the Diagnostic and Statistical Manual of Mental Disorders-5 (DSM-5) between January 2025 and February 2025. The BD diagnosis was established using the Structured Clinical Interview for DSM-5 (SCID-5). Patients who agreed to take part in the observation were given a shape that included sociodemographic information (which include a period of illness, wide variety of hospitalizations, wide variety of suicide attempts) through the clinicians. Young Mania Rating Scale (YMRS), Brief Psychiatric Rating Scale (BPRS) and Hamilton Depression Rating Scale (HAM-D) were administered by the clinician to determine whether the patients' symptoms were in exacerbation or remission. The Bipolar Disorder Functioning Questionnaire (BDFQ) and Morisky Medication Adherence Scale (MMAS) were completed by the participants. Participants who completed the study were included in the statistical analysis and divided into two groups based on their antipsychotic use.

This study was conducted in accordance with the Declaration of Helsinki and has been approved by the ethics committee (Ankara Etlik City Hospital Ethics Committee, 30/10/2024, AEŞH-BADEK-2024-1065).

Measurements Tools

Sociodemographic Data Form: The sociodemographic data form consists of semi-structured questions asking basic demographic information and clinical variables such as age, marital status, education level, occupation, history of psychiatric illness, medical history, family history of psychiatric illness, family history of medical illness, years since diagnosis, medications taken, non-psychiatric medications taken, number of depressive episodes, number of manic episodes, number of hospitalizations.

Hamilton Depression Rating Scale (HAM-D): Developed by Hamilton to assess the severity of depression. This scale rates 17 depressive symptoms on a 3- or

5-point scale. As a result of the assessment, 16-25 is considered as mild, 26-40 as moderate, and 40 or more as severe depressive syndrome (18). A validity and reliability study in Türkiye was conducted by Akdemir et al. conducted (19).

Young Mania Rating Scale (YMRS): Developed by Young et al. scale. It is used to measure the severity of manic episodes. The scale consists of 11 items, seven of which are 5-point Likert-type items and the remaining four are 9-point Likert-type items. The lowest achievable value on the scale is 0 and the highest is 44. The validity and reliability of the Turkish version were examined by Karadağ et al. (20,21).

Brief Psychiatric Rating Scale (BPRS): A scale developed by Overall and Gorham is used to measure symptoms of severe psychosis and some depression (22). It consists of 18 items and is a 7-point Likert-type scale. In the original version, the point distribution is represented on a scale from 0 to 6, with values from 15 to 30 indicating milder syndromes and values above 30 indicating severe syndromes. The lowest value is 0 and the highest value is 108. There is no cut-off value. This scale is used for comparative studies. The validity and reliability of this scale in Türkiye was verified by Soykan (23).

Bipolar Disorder Functioning Questionnaire (BDFQ): This is a 52-item self-report scale that measures the level of functioning of bipolar disorder patients during the symptomatic interictal or recovery phase. This scale was developed by Aydemir et al. (24). It includes 11 subscales: emotional functioning, cognitive functioning, sexual functioning, sense of stigma, social withdrawal, family relationships, relationships with friends, participation in social activities, daily activities and hobbies, spontaneous and potential use, and work/occupation. No limit values are set, so its use in comparative studies is recommended.

Morisky Medication Adherence Scale (MMAS): This is a scale developed by D.E. Morisky developed a self-management scale to measure medication adherence (25). This scale consists of four closed questions with two options. The questions are answered with yes/no. Answering "no" to all questions is considered high adherence, answering "yes" to one or two questions is considered moderate, and answering "yes" to three or four questions is considered low adherence. The scale is easy to complete. A Turkish validity and reliability study was conducted by Bahar et al. (26).

Statistical Analysis

In presenting the data, mean ± standard deviation (SD) was used for continuous variables, and percentages and frequencies were used for categorical variables. Demographic and clinical characteristics between the antipsychotic and non-antipsychotic groups were analyzed using chi-squared tests for categorical variables and Student's t-tests when parametric assumptions were met for continuous variables. If parametric assumptions were not met, Mann-Withney U-tests were used. Normality was assessed using the Shapiro-Wilk test. The relationship between two continuous variables was assessed using Pearson correlation tests. In addition, linear regression analysis was used to determine significant variables associated with the total functioning score at the final assessment. All statistical calculations were performed using Statistical Package for Social Sciences (SPSS) 22.0. All p-values were calculated two-sided, and a p-value less than 0.05 was considered significant.

RESULTS

The study involved 142 volunteers, with a mean age ranging from 18 to 65 years. Of these, 50.7% (n=72) were women. A comparison of the sociodemographic and clinical data of the study groups is presented in Table 1. When comparing the two groups, a significantly higher proportion of married individuals was observed in the non-antipsychotic user group (p=0.008), while the unmarried rate was higher among antipsychotic users. Regarding economic status, it was found that individuals using antipsychotics had lower incomes (p=0.023). No statistically significant differences between the groups in terms of gender, employment status, smoking rate, duration of illness, number of hospitalizations, number of manic episodes, or the use of mood stabilizers (p>0.05).

A comparison of BDFQ, MMAS, YMRS, HAM-D and BPRS of the study groups is presented in Table 2. The emotional functioning scores of antipsychotic users were found to be significantly higher than those of non-users (p=0.003). However, the non-antipsychotic group demonstrated superior scores in areas such as domestic and friendship relationships, social withdrawal, participation in social activities, daily activities, hobbies, and overall functioning. This distinction was statistically significant for all measures (p=0.001, 0.003, 0.004, 0.010, 0.022 and p<0.001 respectively).

Correlations between MMAS scores and BDFQ subtypes are shown in Table 3. In line with the basic statistical analyses, a significant relationship was found between the variables and the BDFQ Total Score as a result of the multiple linear regression analysis conducted to reveal the predictive value of gender and antipsychotic use, which were thought to have an effect on the BDFQ Total Score (Adjusted R^2=0.106, F (6,135)=3.772, p=0.002). The results indicated that both female gender (p=0.030) and antipsychotic use (p<0.001) were significant predictors of the BDFQ Total Score. The linear regression model is shown in Table 4.

Table 1. Comparison of sociodemographic characteristics of the participants according to antipsychotic use

Variable		Antipsychotic use		Statistic	df	p value
		Yes (n=108)	No (n=34)			
Age; year, mean±SD		38.72±11.68	42.29±11.18	t=1.520	140	0.119
Gender; n (%)	Female	55 (50.9)	17 (50)	χ2=0.009	1	0.925
	Male	53 (49.1)	17 (50)			
Marital status; n (%)	Single	47 (43.5)	5 (14.7)	χ2=9.623	2	**0.008****
	Married	55 (50.9)	25 (73.5)			
	Divorced/widow	6 (5.6)	4 (11.8)			
Working status; n (%)	Working	31 (28.7)	13 (32.2)	χ2=1.009	1	0.295
	Not-working	77 (71.3)	15 (61.8)			
Education year; year, mean±SD		10.49±3.39	10.73±4.28	t=0.343	140	0.732
Economic status; n (%)	High	18 (16.7)	10 (29.4)	χ2=8.044	2	**0.023***
	Middle	23 (21.3)	12 (35.3)			
	Low	63 (58.3)	12 (35.3)			
Smoking; yes, n (%)		54 (50)	17 (50)	χ2=0.000.	1	1.000
Mental illness in the family; yes, n (%)		70 (64.8)	18 (52.9)	χ2=1.547	1	0.214
Physical illness in the family; yes, n (%)		35 (32.4)	13 (38.2)	χ2=0.393	1	0.531
Duration of illness; year, mean±SD		13.33±7.64	14.50±9.21	t=0.738	140	0.462
Number of hospitalizations; n, mean±SD		2.19 ±2.45	2.20 ±2.64	t=0.023	140	0.981
Number of depressive episodes; n, mean±SD		4.01 ±3.10	4.58 ±3.56	t=0.900	140	0.370
Number of manic episodes; n, mean±SD		4.54 ±2.84	3.52±2.40	t=1.885	140	0.061
Mood stabilizer use; yes, n (%)		94 (87.0)	30 (88.2)	χ2=0.034	1	0.855
Type of mood stabilizer; yes, n (%)	None	14 (13.0)	4 (11.8)	χ2=1.451	3	0.694
	Lithium	53 (49.1)	14 (41.2)			
	Valproate	40 (37.0)	15 (44.1)			
	Carbamazepine	1 (0.9)	1 (2.9)			
Dual mood stabilizer; yes, n (%)		9 (8.3)	1 (2.9)	χ2=1.149	1	0.284
Type of Antipsychotic; yes, n (%)	Quetiapine	65 (60.2)				
	Olanzapine	22 (20.4)				
	Aripiprazole	11 (10.2)				
	Paliperidone	2 (1.9)				
	Risperidone	8 (7.4)				
Double Antipsychotic; yes, n (%)		12 (11.1)				
Antidepressant use; yes, n (%)		10 (9.3)	5 (14.7)	χ2=0.812	1	0.368

*: p value≤0.05, **: p value≤0.01

Table 2. Comparison of Bipolar Disorder Functioning Questionnaire, Morisky Medication-Taking Adherence Scale, Young Mania Rating Scale, Hamilton-Depression Rating Scale, Brief Psychiatric Rating Scale according to antipsychotic use

Variable	Antipsychotic use		Statistic	df	p value
	Yes (n=108)	No (n=34)			
Bipolar Disorder Functioning Questionnaire					
Emotional functioning	3.88±1.16	3.26±0.66	z=1271		**0.003***
Intellectual functioning	5.90±2.16	5.29±1.48	z=1622		0.286
Sexual functioning	7.38±3.10	7.08±3.51	t=-0.462	140	0.645
Feelings of stigmatization	8.0±1.80	7.85±2.06	t=-0.400	140	0.690
Social withdrawal	6.96±1.54	7.91±1.02	t=3.349	140	**0.001****
Household relations	16.38±2.88	16.02±2.30	t=3.045	140	**0.003***
Relations with friends	11.57±2.20	12.79±1.85	t=2.926	140	**0.004***
Participation to social activities	12.75±3.11	14.38±3.27	t=2.620	140	**0.010***
Daily activities and hobbies	13.44±2.38	14.55±2.61	t=2.320	140	**0.022***
Taking initiative and self sufficiency	6.20±1.19	6.26±1.18	t=0.261	140	0.795
Occupation	6.63±1.35	6.61±1.01	t=-0.084	140	0.933
Total	99.06±7.19	104.05±8.27	t=3.404	140	**<0.001****
Morisky Medication Adherence Scale	7.102±1.06	6.88±1.14	t=-1.027	140	0.306
Young Mania Rating Scale	0.58±1.03	0.73±1.21	t=0.716	140	0.475
Hamilton-Depression Rating Scale	2.66±1.73	2.50±1.60	t=-0.497	140	0.620
Brief Psychiatric Rating Scale	2.47±2.13	1.76±1.59	t=-1.781	140	0.077

*: p value≤0.05, **: p value≤0.01

Table 3. Morisky Medication Adherence Scale Scores correlations with Bipolar Disorder Functioning Scale subtypes

Bipolar Disorder Functioning Questionnaire	Morisky Medication Adherence Scale	
	r	p
Emotional functioning	-0.155	0.109
Intellectual functioning	**-0.376**	**<0.001**
Sexual functioning	**-0.229**	**0.017**
Feelings of stigmatization	0.155	0.109
Social withdrawal	**0.302**	**0.001**
Household relations	**0.285**	**0.003**
Relations with friends	**0.318**	**0.001**
Participation to social activities	0.098	0.315
Daily activities and hobbies	-0.095	0.328
Taking initiative and self sufficiency	-0.039	0.692
Occupation	-0.046	0.639
Total	0.066	0.497

Table 4. Linear regression model created to determine predictors of Bipolar Disorder Functioning Scale

Predictor	Estimate	SE	95% confidence interval		t	p	Standard estimate
			Lower	Upper			
Age	-0.036	0.058	-0.151	0.079	-0.618	0.538	-0.054
Gender (female–male)	**2.819**	**1.284**	**0.279**	**5.359**	**2.195**	**0.030**	**0.364**
Antipsychotic use (yes–no)	**-5.337**	**1.484**	**-8.271**	**-2.403**	**-3.597**	**<0.001**	**-0.690**
Brief Psychiatric Rating Scale	-0.153	0.318	-0.781	0.475	-0.482	0.631	-0.040
Education year	-0.261	0.193	-0.643	0.121	-1.350	0.179	-0.122
Morisky Medication Adherence Scale	1.063	0.598	-0.120	2.247	1.777	0.078	0.149

DISCUSSION

This study was conducted to analyze the results of antipsychotic use on functioning and medication adherence in BD. The most important result of the study was that those not using antipsychotics had higher scores in domestic and friend relationships, social withdrawal, social activity participation, daily activities, hobbies, and overall functioning and in the total functionality area, and their emotional functionality was lower. In addition, antipsychotic use and female gender were found to be independent predictors of total functionality in BD. It is hypothesized that the findings of this study will lead to a more comprehensive evaluation of antipsychotic use in BD patients and may prompt a revision of current antipsychotic treatment practices.

By focusing on these targeted aims, the study fills a critical gap by demonstrating that among patients in remission, antipsychotic use is linked to a complex functional profile characterized by improved emotional regulation yet significant deficits in social interactions, domestic activities, and overall functioning. Notably, non-antipsychotic users scored higher in several of these domains, suggesting that the benefits of antipsychotic therapy may be accompanied by unintended adverse effects on other aspects of daily life. Our results are consistent with reports in the literature (27). There may be several reasons for these results. Bipolar patients prescribed antipsychotics may represent a relatively more severe spectrum of illness than those who are not on antipsychotic treatment. Research suggests that high symptom severity in BD may influence the decision to add an antipsychotic to the treatment regimen (28). In the study conducted by Tığlı Filizer and colleagues, participants were classified into three groups according to their medication regimen: individuals taking mood stabilizers, those on a combination of mood stabilizers and antipsychotics and those prescribed three or more medications. Results from the comparison among these three groups indicated that patients who were only using mood stabilizers demonstrated high levels of functionality compared to those on three or more medications (27). They also showed that the use of a combination treatment, including antipsychotics, had statistically significant negative effects on aspects such as decision-making independence, social interactions, and leisure activities (27). Previous studies have highlighted that persistent subthreshold depressive symptoms can also negatively impact various functional domains, including work performance, social interactions, and cognitive functioning (29). In contrast, Yen et al. evaluated the quality of life in bipolar disorder patients compared to individuals with schizophrenia and healthy controls, examining the effects of second-generation antipsychotics. They found that the quality of life in bipolar patients, across domains such as physical, psychological, social relationships, and environment, was more similar to that of schizophrenia patients and lower than that of healthy controls. This finding suggests that while pharmacological treatment is essential for managing symptoms, its impact on overall quality of life may be limited (30). Considering these inconsistencies, the data presented, and the complexity

of the situation at hand, more in depth analysis is required to determine if the observed results are linked to the impact of medications or indicative of a serious illness with an unfavorable prognosis.

One of the findings of this study indicates that over half of the patients with BD were unemployed, underscoring the substantial impact of the condition on morbidity and its role in determining the severity of the illness. Furthermore, evidence suggests that patients with BD who experience a higher number of depressive episodes are more likely to encounter long-term unemployment compared to those without such factors (31). A similar result is also observed in functionality studies conducted in the elderly population. Elderly patients with BD showed significantly greater impairments in functioning as compared to the control group, particularly in areas of autonomy, occupational functioning, cognitive abilities, financial management, and interpersonal relationships (32). Moreover, the accumulation of episodes over the years predicts future relapses and may consequently be associated with poor outcomes (33).

Looking at studies examining the relationship between medication adherence and functioning, one study suggests that improved medication adherence can result in better mood episode control, which is crucial for bipolar illness stability (34). However, the effect of adherence on capability may be influenced by numerous factors, which include the severity of the disorder, the presence of comorbid conditions, and the facet results of medications (27). Various psychotropic medications and the side effects of antipsychotic treatments have been reported to have a negative impact on functioning (35). In our study, we observed that as medication adherence increased, both intellectual and sexual functioning decreased. This suggests that the negative effects of antipsychotics on functioning become more pronounced with higher adherence, possibly due to their side effects. It is important to note, however, that this relationship may also be influenced by confounding factors such as age, metabolic effects, and concomitant medications, as well as side effects like sedation, weight gain, and metabolic disturbances. Although our baseline comparisons (see Table 1) showed no statistically significant differences between groups regarding age and concomitant medication usage, the possibility of residual confounding cannot be completely ruled out. Second-generation antipsychotics, particularly risperidone, can lead to hyperprolactinemia by causing hypothalamic-pituitary dysregulation, which may induce sexual dysfunction by causing decreased libido, erectile dysfunction, and other sexual problems (36). Due to the nature of BD, which necessitates long-term pharmacotherapy, patients may experience a variety of side effects, including metabolic syndrome and weight gain, particularly with second-generation antipsychotics (37). Studies have shown that overactivation of the amygdala is present in patients with BD (38). During normal sexual response, amygdala activity decreases as sexual pleasure increases; however, this hyperactivation, which is frequently seen in BD, may lead to decreased sexual satisfaction (39). In a study involving 80 BD patients in remission and 80 healthy controls, it was reported that the patients exhibited poorer functioning than controls in areas such as intellectual and sexual functioning, perceived stigma, introversion, family relationships, friendships, and engagement in community activities (27). Poor sexual functioning in BD may be related both to some pathophysiological mechanisms related to BD and to the symptoms of the disorder.

Individuals with BD often experience intense mood swings, which can lead to difficulties in managing emotions. A number of studies have shown that the use of antipsychotics in BD is effective in stabilizing mood (40). Effective mood stabilization can lead to enhanced emotional regulation, reduced dysregulation, and improved overall emotional functioning.

However, because this is a cross-sectional study, patients treated with mood stabilizers alone may have a milder course of illness or less severe episodes than those treated with a combination of mood stabilizers and second-generation antipsychotics. Due to these limitations, we cannot rule out the possibility that medication load, disease progression, and other uncontrolled variables may have influenced our results. Therefore, when interpreting the study findings, it should be considered that differences in functioning may stem from factors other than treatment modalities. Moreover, the cross-sectional design and lack of a follow-up period limit our ability to report on the long-term effects of symptoms and treatment, underscoring the need for longitudinal studies to generalize the results. The strengths of this study include sufficient sample size and similar characteristics across all subgroups, as our sample consisted solely of patients with, bipolar I disorder, which is relatively homogeneous. Long-term follow-up studies are necessary to further evaluate the relationship between clinical characteristics and functional ability.

CONCLUSION

In BD, impairments across multiple functional domains are present even during remission. Although patients can achieve remission, they often do not relapse and tend to recover to premorbid levels of psychosocial functioning. However, second-generation antipsychotics used in treatment have adverse effects in addition to residual symptoms. While the benefits of antipsychotics in the acute phase of BD are undeniable, their effects on overall functioning in patients in remission should also be considered. During long-term treatment, antipsychotic regimens should be periodically reevaluated; treatments that are no longer needed should be gradually reduced or discontinued, and the potential side effects and costs of continued psychotropic therapy should be carefully assessed.

Financial disclosures: *The authors declared that this study has received no financial support.*

Conflict of interest: *The authors have no conflicts of interest to declare.*

Ethical approval: *This study was conducted in accordance with the Declaration of Helsinki and has been approved by the ethics committee (Ankara Etlik City Hospital Ethics Committee, 30/10/2024, AEŞH-BADEK-2024-1065).*

REFERENCES

1. Sachs GS, Thase ME, Otto MW, et al. Rationale, design, and methods of the systematic treatment enhancement program for bipolar disorder (STEP-BD). Biol Psychiatry. 2003;53:1028-42.
2. Kessler RC, Akiskal HS, Angst J, et al. Validity of the assessment of bipolar spectrum disorders in the WHO CIDI 3.0. J Affect Disord. 2006;96:259-69.
3. Karanti A, Kardell M, Lundberg U, Landén M. Changes in mood stabilizer prescription patterns in bipolar disorder. J Affect Disord. 2016;195:50-6.
4. Gokcay H, Solmaz M. The association between mood stabilizers, sleep quality, and functioning in patients with remitted bipolar disorder. J Clin Psychopharmacol. 2024;44:258-62.
5. Keskin N, Tamam L, Ozpoyraz N. Assessment of sleep quality in bipolar euthymic patients. Compr Psychiatry. 2018;80:116-25.
6. Berk L, Hallam KT, Colom F, et al. Enhancing medication adherence in patients with bipolar disorder. Hum Psychopharmacol. 2010;25:1-16. Erratum in: Hum Psychopharmacol. 2010;25:192.
7. Lingam R, Scott J. Treatment non-adherence in affective disorders. Acta Psychiatr Scand. 2002;105:164-72.
8. Vieta E. Improving treatment adherence in bipolar disorder through psychoeducation. J Clin Psychiatry. 2005;66:24-9.
9. Lama S, Lakshmi KV, Shyangwa PM, Parajuli P. Level of compliance and factors associated with non-compliance to treatment among the mentally ill patients. Health Renaiss. 2012;10:113-7.
10. Sajatovic M, Davies M, Hrouda DR. Enhancement of treatment adherence among patients with bipolar disorder. Psychiatr Serv. 2004;55:264-9.
11. Sajatovic M, Ignacio RV, West JA, et al. Predictors of nonadherence among individuals with bipolar disorder receiving treatment in a community mental health clinic. Compr Psychiatry. 2009;50:100-7.
12. Baldessarini RJ, Tondo L, Hennen J. Effects of lithium treatment and its discontinuation on suicidal behavior in bipolar manic-depressive disorders. J Clin Psychiatry. 1999;60:77-116.
13. Eaddy M, Grogg A, Locklear J. Assessment of compliance with antipsychotic treatmentand resource utilization in a medicaid population. Clin Ther. 2005;27:263-72.
14. Levin JB, Aebi ME, Tatsuoka C, et al. Adherence to psychotropic and nonpsychotropic medication among patients with bipolar disorder and general medical conditions. Psychiatr Serv Wash DC. 2016;67:342-5.
15. Bauer M, Glenn T, Alda M, et al. Association between adherence with an atypical antipsychotic and with other psychiatric drugs in patients with bipolar disorder. Pharmacopsychiatry. 2021;54:75-80.
16. Bonnin CM, Torrent C, Vieta E, Martínez-Arán A. Restoring functioning in bipolar disorder: functional remediation. Harv Rev Psychiatry. 2014;22:326-30.
17. Gruber J, Harvey AG, Wang PW, et al. Sleep functioning in relation to mood, function, and quality of life at entry to the Systematic Treatment Enhancement Program for Bipolar Disorder (STEP-BD). J Affect Disord. 2009;114:41-9.
18. Nutt DJ. The Hamilton Depression Scale- Accelerator or break on antidepressant drug discovery?. J Neurol Neurosurg Psychiatry. 2014;85:119-20.
19. Akdemir A, Örsel S, Dağ İ, et al. Hamilton depresyon derecelendirme ölçeğinin (HDDÖ) geçerliliği-güvenilirliği ve klinikte kullanımı. 3P Psikiyatri Psikoloji Psikofarmakoloji Dergisi. 1996;4:251-9.
20. Young RC, Biggs JT, Ziegler VE, Meyer DA. A rating scale for mania: reliability, validity and sensitivity. Br J Psychiatry. 1978;133:429-35.
21. Karadağ F, Oral T, Yalçin FA, Erten E. Reliability and validity of Turkish translation of Young Mania Rating Scale. Turk Psikiyatri Derg. 2002;13:107-14.
22. Overall JE, Gorham DR. The Brief Psychiatric Rating Scale. Psychological Reports. 1962;10:799-812.
23. Soykan Kahraman Ç. Institutional differences and case typicality as related to-diagnosis symptom severity prognosis and treatment. Master thesis. Middle East Technical University. Ankara, 1990.
24. Aydemir O, Eren I, Savaş H, et al. Development of a questionnaire to assess inter-episode functioning in bipolar disorder: Bipolar Disorder Functioning Questionnaire. Turk Psikiyatri Derg. 2007;18:344-52.
25. Morisky DE, Green LW, Levine DM. Concurrent and predictive validity of a self-reported measure of medication adherence. Med Care. 1986;24:67-74.
26. Bahar G, Savas H, Nal A, et al. Reliability and validity of the Morisky Medication Adherence Scale for bipolar mood disorder. Alpha Psychiatry. 2014;15:141-9.
27. Tiğli Filizer A, Cerit C, Tüzün B, Aker AT. Social aspect of functioning deteriorates more than individual aspect in patients with remitted bipolar disorder. Noro Psikiyatr Ars. 2016;53:158-62.
28. Ringen PA, Reponen EJ, Vedal TSJ, et al. Predictors for antipsychotic dosage change in the first year of treatment in schizophrenia spectrum and bipolar disorders. Front Psychiatry. 2019;10:649.
29. Aguglia A, Fusar-Poli L, Natale A, et al. Factors associated with medication adherence to long-acting injectable antipsychotics: results from the STAR network depot study. Pharmacopsychiatry. 2022;55:281-9.
30. Yen CF, Cheng CP, Huang CF, et al. Quality of life and its association with insight, adverse effects of medication and use of atypical antipsychotics in patients with bipolar disorder and schizophrenia in remission. Bipolar Disord. 2008;10:617-24.

31. Zimmerman M, Galione JN, Chelminski I, et al. Sustained unemployment in psychiatric outpatients with bipolar disorder: frequency and association with demographic variables and comorbid disorders. Bipolar Disord. 2010;12:720-6.

32. Comes M, Rosa A, Reinares M, et al. Functional impairment in older adults with bipolar disorder. J Nerv Ment Dis. 2017;205:443-7. Erratum in: J Nerv Ment Dis. 2019;207:522.

33. Rosa AR, Reinares M, Franco C, et al. Clinical predictors of functional outcome of bipolar patients in remission. Bipolar Disord. 2009;11:401-9.

34. Berger A, Edelsberg J, Sanders KN, et al. Medication adherence and utilization in patients with schizophrenia or bipolar disorder receiving aripiprazole, quetiapine, or ziprasidone at hospital discharge: a retrospective cohort study. BMC Psychiatry. 2012;12:99.

35. Sanchez-Moreno J, Martinez-Aran A, Tabarés-Seisdedos R, et al. Functioning and disability in bipolar disorder: an extensive review. Psychother Psychosom. 2009;78:285-97.

36. Cichon GJ, Qadri SF. Risperidone-induced sexual dysfunction case report. Cureus. 2023;15:e35357.

37. Vancampfort D, Stubbs B, Mitchell AJ, et al. Risk of metabolic syndrome and its components in people with schizophrenia and related psychotic disorders, bipolar disorder and major depressive disorder: a systematic review and meta-analysis. World Psychiatry Off J World Psychiatr Assoc WPA. 2015;14:339-47.

38. Phillips ML, Swartz HA. A critical appraisal of neuroimaging studies of bipolar disorder: toward a new conceptualization of underlying neural circuitry and a road map for future research. Am J Psychiatry. 2014;171:829-43.

39. Rowland DL. Neurobiology of sexual response in men and women. CNS Spectr. 2006;11:6-12.

40. Luca M, Prossimo G, Messina V, et al. Epidemiology and treatment of mood disorders in a day hospital setting from 1996 to 2007: an Italian study. Neuropsychiatr Dis Treat. 2013;9:169-76.