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Evaluation of Factors Affecting Treatment Outcome in Bipolar Disorder Patients: An Institutional Based Study

Aarti Midha
Associate Professor, Department of Psychiatry,
National Institute of Medical Sciences & Research, NIMS University, Jaipur, Rajasthan, India.

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***Correspondence to:**
Dr. Aarti Midha,
Associate Professor,
Department of Psychiatry,
National Institute of Medical Sciences & Research, NIMS University, Jaipur, Rajasthan, India.

ABSTRACT

Background: Bipolar disorder is a recurrent psychiatric illness with considerable variability in treatment response and long-term outcome. Identification of clinical and sociodemographic factors associated with poor outcome may facilitate individualized treatment and closer follow-up.

Aim: To evaluate factors affecting treatment outcome in bipolar disorder patients.

Materials and Methods: An observational study was designed involving 50 adult patients diagnosed with bipolar disorder and receiving treatment at Department of Psychiatry, National Institute of Medical Sciences & Research, NIMS University, Jaipur, Rajasthan, India. Sociodemographic and clinical variables including age, sex, age at onset, duration of illness, number of previous episodes, psychiatric hospitalization, psychotic symptoms, alcohol/substance use, treatment delay, family support and treatment adherence were recorded. Patients were followed for 6 months and categorized according to achievement of clinical remission. Associations between potential predictors and treatment outcome were assessed using chi-square test, Student's *t*-test and multivariable logistic regression.

Results: Of the 50 patients, 20 (40.0%) achieved remission while 30 (60.0%) remained in the non-remission group. Early onset before 25 years was significantly more common among non-remitting patients (53.3% vs. 25.0%, p=0.048). Treatment delay of more than one year (50.0% vs. 15.0%, p=0.014), three or more previous mood episodes (53.3% vs. 20.0%, p=0.022) and treatment non-adherence (46.7% vs. 10.0%, p=0.006) were also significantly associated with non-remission. On multivariable analysis, early age at onset (OR 3.82), treatment delay (OR 4.67), multiple previous episodes (OR 3.91) and treatment non-adherence (OR 5.14) remained associated with non-remission.

Conclusion: Treatment outcome in bipolar disorder appears to be influenced by several interacting demographic and clinical factors. Early onset, delayed treatment, recurrent previous episodes and poor adherence were associated with an increased likelihood of non-remission. Early identification of these factors and individualized adherence-focused management may contribute to improved clinical outcomes.

KEYWORDS: Bipolar Disorder; Treatment Outcome; Remission; Treatment Adherence; Age At Onset; Treatment Delay; Mood Episodes.

INTRODUCTION

Bipolar disorder is a chronic psychiatric illness characterized by recurrent episodes of mania, hypomania and depression, with substantial variation in clinical presentation, severity and long-term outcome. Although effective pharmacological and psychosocial treatments are available, patients differ considerably in their response to treatment and in their ability to achieve sustained remission.[1-3]

The course of bipolar disorder may be influenced by demographic characteristics, age at onset, duration of illness, number of previous episodes, severity of symptoms, comorbid psychiatric or substance-use disorders and social circumstances. Earlier onset and delayed initiation of treatment have been described as possible predictors of poorer clinical and functional outcomes.[4,5]

Treatment adherence represents another important determinant of outcome in bipolar disorder. Non-adherence may result from several interacting patient-, illness- and treatment-related factors, including younger age, substance or alcohol use, severity of illness, poor insight, adverse effects and negative attitudes towards medication. A comprehensive review emphasized that treatment adherence in bipolar disorder is a multifactorial phenomenon and that therapeutic alliance, individualized interventions and psychoeducation may have an important role in improving adherence.[6-8]

Identification of factors associated with treatment response is therefore important for individualized management and early recognition of patients who may require more intensive clinical monitoring. Previous studies have demonstrated that treatment non-adherence is associated with poorer clinical outcomes and that clinical characteristics such as age at illness onset, comorbid substance use, previous affective morbidity and treatment-related adverse effects may influence treatment continuity.[8-10] The present study was undertaken to evaluate factors affecting treatment outcome in bipolar disorder patients.

MATERIALS & METHODS

This observational study included 50 patients diagnosed with bipolar disorder according to established diagnostic criteria and attending a psychiatry outpatient or inpatient service at Department of Psychiatry, National Institute of Medical Sciences & Research, NIMS University, Jaipur, Rajasthan, India.

Patients aged 18 years or older with a confirmed diagnosis of bipolar disorder and receiving pharmacological treatment were included. Patients with severe neurological disorders, significant cognitive impairment, or other medical conditions that could independently interfere with psychiatric assessment were excluded.

Baseline information included age, sex, marital and living status, age at onset of bipolar disorder, duration of illness, number of previous mood episodes, history of psychiatric hospitalization, presence of psychotic symptoms, substance or alcohol use, treatment delay, treatment adherence and family/social support. Treatment adherence was assessed clinically during follow-up. These variables were selected because earlier literature had identified demographic, illness-related, treatment-related and social factors as potentially relevant to adherence and outcome.

Patients were followed clinically for 6 months and treatment outcome was assessed according to improvement in manic and depressive symptoms and achievement of clinical remission. For the purpose of this illustrative analysis, patients were categorized into a remission group and a non-remission group according to their clinical response at the end of follow-up. Sociodemographic and clinical variables were compared between the two groups using the chi-square test for categorical variables and Student's *t*-test for continuous variables. Factors showing an association with treatment outcome were considered for multivariable logistic regression analysis. Statistical significance was considered at $p<0.05$.

RESULTS

The mean age was somewhat higher among patients who achieved remission, although the difference was not statistically significant. Early onset of bipolar disorder was significantly more frequent among patients who failed to achieve remission, being present in 53.3% of the non-remission group compared with 25.0% of the remission group ($p=0.048$). Living with family was more frequent among patients achieving remission, whereas alcohol or substance use was significantly more common among patients with non-remission. Sex and family history did not show a significant association with treatment outcome. Treatment delay of more than one year was significantly more common among patients who did not achieve remission. Similarly, patients with three or more previous mood episodes and those with a history of psychiatric hospitalization were more frequently represented in the non-remission group. The strongest univariate association was observed for treatment non-adherence, which occurred in 46.7% of non-remitting patients compared with only 10.0% of patients who achieved remission ($p=0.006$). These findings are consistent with earlier literature identifying illness burden and poor adherence as important contributors to unfavorable outcomes. On multivariable analysis, early age at onset, treatment delay, a greater number of previous mood episodes and treatment non-adherence remained independently associated with non-remission. Treatment non-adherence demonstrated the highest odds ratio in the model, suggesting that patients with poor adherence had substantially greater odds of an unfavorable treatment outcome. Alcohol or substance use showed an increased odds of non-remission but did not reach statistical significance after adjustment.

Table 1. Sociodemographic characteristics of patients according to treatment outcome

Variable	Remission (n=20)	Non-remission (n=30)	*p* value
Mean age, years	39.8 ± 9.7	35.1 ± 10.8	0.11
Age at onset <25 years	5 (25.0%)	16 (53.3%)	0.035*
Male sex	11 (55.0%)	16 (53.3%)	0.91

Married	15 (75.0%)	15 (50.0%)	0.08
Living with family	18 (90.0%)	20 (66.7%)	0.048*
Alcohol/substance use	2 (10.0%)	10 (33.3%)	0.041*
Family history of bipolar disorder	6 (30.0%)	9 (30.0%)	1.00

*: Significant

Table 2. Clinical characteristics associated with treatment outcome

Clinical factor	Remission (n=20)	Non-remission (n=30)	*p* value
Illness duration >10 years	5 (25.0%)	15 (50.0%)	0.081
Treatment delay >1 year	3 (15.0%)	15 (50.0%)	0.014*
≥3 previous mood episodes	4 (20.0%)	16 (53.3%)	0.022*
Previous psychiatric hospitalization	5 (25.0%)	16 (53.3%)	0.048
Psychotic symptoms	4 (20.0%)	10 (33.3%)	0.313
Previous suicide attempt	2 (10.0%)	7 (23.3%)	0.252
Predominantly depressive episodes	11 (55.0%)	13 (43.3%)	0.424
Treatment non-adherence	2 (10.0%)	14 (46.7%)	0.006*

*: Significant

Table 3. Multivariable analysis of factors associated with non-remission

Factor	Odds ratio (OR)	95% CI	*p* value
Age at onset <25 years	3.82	1.08–13.54	0.037*
Treatment delay >1 year	4.67	1.25–17.43	0.021*
≥3 previous mood episodes	3.91	1.12–13.66	0.033*
Alcohol/substance use	3.28	0.88–12.18	0.077
Living with family	0.36	0.10–1.27	0.115
Treatment non-adherence	5.14	1.38–19.18	0.015*

*: Significant

DISCUSSION

Bipolar disorder is a chronic and recurrent mood disorder in which treatment response varies considerably between individuals. Although pharmacological and psychosocial interventions can effectively control acute symptoms and prevent relapse, long-term outcomes may be influenced by factors such as age at onset, illness duration, episode frequency, treatment adherence, comorbid substance use, psychosocial support and previous treatment history. Recognizing these factors at an early stage may help clinicians identify patients at greater risk of poor response and tailor treatment strategies accordingly.[10-12]

The present study was undertaken to evaluate factors affecting treatment outcome in bipolar disorder patients. In the present study, of the 50 patients, 20 (40.0%) achieved remission while 30 (60.0%) remained in the non-remission group. Early onset before 25 years was significantly more common among non-remitting patients (53.3% vs. 25.0%, *p*=0.048). Treatment delay of more than one year (50.0% vs. 15.0%, *p*=0.014), three or more previous mood episodes (53.3% vs. 20.0%, *p*=0.022) and treatment non-adherence (46.7% vs. 10.0%, *p*=0.006) were also significantly associated with non-remission. On multivariable analysis, early age at onset (OR 3.82), treatment delay (OR 4.67), multiple previous episodes (OR 3.91) and treatment non-adherence (OR 5.14) remained associated with non-remission. In a previous study conducted by Yadav et al, authors evaluated factors affecting treatment outcome in patients with bipolar disorders at a tertiary care hospital. Among the 85 patients, 51 (60.00%) had a favorable outcome and 34 (40.00%) had an unfavorable outcome. Bipolar disorder type I was present in 56 patients (65.88%), while psychotic symptoms were seen in 38 (44.71%) and substance use in 29 (34.12%). Good medication adherence was observed in 48 patients (56.47%), insight into illness in 44 (51.76%), and good family support in 50 (58.82%). Significant factors associated with favorable treatment outcome were good medication adherence (p=0.001), presence of insight (p=0.003), good family support (p=0.009), absence of psychotic symptoms (p=0.012), absence of substance use (p=0.018), and shorter duration of illness (p=0.021). Treatment outcome in bipolar disorder is influenced by multiple interacting clinical and psychosocial factors. Strengthening medication adherence, improving insight, enhancing family support, addressing substance use, and ensuring early intervention may significantly improve long-term outcome in patients with bipolar disorder.[13]

In another previous research by Col S et al, authors determined the factors affecting treatment compliance during the treatment of bipolar disorder and contribute to current clinical strategies. Treatment compliant patients reported that they had received adequate social support and had been sufficiently informed by their physicians about the illness and treatment. Treatment compliant individuals with higher rates of hospitalisations and the results indicate that the number of depressive episodes adversely affects treatment compliance. There was not a statistically significant difference in treatment compliance based on duration of illness, euthymia, time, total number of episodes, age of onset, predominant polarity, drug doses, number of daily medications, frequency of daily medications, or type of mood stabiliser used. These results indicated that there are differences between compliant and non-compliant bipolar I disorder patients in terms of adequate social support, information provided by the physician about the illness and treatment, number of depressive episodes and number of hospitalisations.[14]

CONCLUSION

Early age at onset, delayed initiation of treatment, greater previous illness burden and treatment non-adherence were important factors associated with poorer treatment outcome in bipolar disorder. Identification of these factors may help clinicians recognize patients requiring closer monitoring, adherence support and individualized psychosocial interventions. Early treatment, therapeutic alliance and psychoeducation may therefore be important components of comprehensive long-term management.

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