

## Research Report

# ATTITUDE TOWARDS DRUG ADHERENCE IN INPATIENTS WITH BIPOLAR AFFECTIVE DISORDER: A CROSS-SECTIONAL STUDY

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### ABSTRACT

**Background and Objectives:** Bipolar Affective Disorder is the sixth leading cause of disability-adjusted life years in individuals aged 15-44 years. Among the patients with bipolar disorder, about 60% are at least partially non-adherent to medications. This study attempted to study attitude towards drug adherence in inpatients with bipolar affective disorder. **Materials and Methods:** Consecutive patients, between 18 to 60 years of age, diagnosed with Bipolar Affective Disorder, undergoing inpatient treatment over a two-month period, were recruited. Their attitude towards drug adherence was assessed using a 30-item version of the Drug Attitude Inventory (DAI). **Results:** Subjects in this study had good medication adherence (DAI=  $3.12 \pm 7.09$ ), indicating these patients tended to report favourable views towards their psychiatric medications. **Conclusion:** Assessment of attitude towards non-adherence in this population showed good medication adherence and a positive response to treatment.

**Keywords:** non-adherence, drug attitude, bipolar affective disorder

### INTRODUCTION

According to the WHO, Bipolar Affective Disorder is the sixth leading cause of disability-adjusted life years in individuals aged 15-44 years.<sup>1</sup> It is among the most debilitating mental disorders in India, with a percentage of total DALYs being 6.9% in 2017.<sup>2</sup> It is therefore no longer sufficient to focus treatment on the symptoms of acute episodes, but also to understand the course of the illness, reduce chronicity by preventing or delaying episode recurrence and develop timely interventions by optimising treatment strategies.<sup>3</sup>

The WHO has defined treatment adherence as "the extent to which a person's medication taking behaviour, following a diet, and or executing lifestyle changes, corresponds with agreed recommendations from a

health care provider.<sup>4</sup> Among the patients with Bipolar Disorder, about 60% are at least partially non-adherent to medications.<sup>5</sup> From a retrospective chart review done in India, 82.7% of patients were found to have a history of noncompliance.<sup>6</sup> According to a study on Indian patients suffering from mental disorders, better adherence was seen among educated patients and those with parental social support.<sup>7</sup> A study from South India observed that occupational status and length of hospital stay were predictive of high medication adherence. Drug attitude scores and the number of depressive episodes had positive and negative associations, respectively, with high medication adherence.<sup>8</sup> Compliance with medications is one of the most

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significant factors that can decrease the rate and severity of relapse and positively impact the overall prognosis.<sup>9</sup> Noncompliance and subsequent failure to follow up can result in deterioration in their mental state. Noncompliance is strongly related to clinical outcomes such as relapse, rehospitalisation, and suicide attempts in schizophrenia and bipolar disorder.<sup>10</sup>

Bipolar Affective Disorder is a major public health problem with frequent relapses and recurrences. Inadequate treatment causes a significant morbidity and mortality risk. Keeping these factors in mind, it is necessary to systematically analyse the determinants of non-adherence in our community. The objective of the study was to determine the attitude of inpatients with Bipolar Affective Disorder towards drug adherence.

## METHODS

A cross-sectional study was conducted in consecutive IP patients in the psychiatry ward of a tertiary care centre in Kerala, India, over a duration of 2 months (2018). The study included patients in the age group 18-60 years, admitted in the psychiatry ward with bipolar affective disorder, diagnosed as per International Classification of Diseases ICD10, following clinical interview, during the study period. Those with intellectual disability and those who were unwilling to give consent or were uncooperative were excluded from the study.

Assuming alpha error at 0.5% and 8% precision, the sample size of 63 was calculated based on a similar study.<sup>11</sup> Approval was obtained from Institutional Review Board before the study. A questionnaire pertaining to demographic details and the clinical data was given to the patient and bystander, and the information extracted was entered in the data collection sheet.

The attitude towards drug adherence was assessed using a 30-item version of the Drug Attitude Inventory (DAI). It includes a series of questions, each with true/false answers, pertaining to various aspects of the patient's perceptions and treatment experiences. The DAI-30 contains 15 items that a patient who is fully adherent to their prescribed medication (and so would be expected to have a 'positive' subjective response to medication) would answer as 'True', and 15 items such a patient would answer as 'False'. To calculate the score from a set of answers, each 'positive' answer is given a

score of plus one, and each 'negative' answer is given a score of minus one. The total score for each patient is calculated as the sum of the positive scores minus the negative scores. A positive total score indicates a positive subjective response (adherent), and a negative total score indicates a negative subjective response (non-adherent).

The patients responded to the questionnaire, which was translated to Malayalam.

## RESULTS

Table 1: Sociodemographic and illness-related variables

Variable	Count (%)
<b>Gender</b>	
Male	38(60.30%)
Female	25(39.70%)
<b>Marital status</b>	
Married	34(54.6%)
Unmarried, divorced, separated, widow/ widower	29(45.4%)
<b>Duration of illness</b>	
Illness for < 10 years	16(25.40%)
Illness for > 10 years	47(74.60%)
<b>Supervision of medications</b>	
Supervised	30(47.60%)
Unsupervised	33(52.40%)
<b>Medication adherence (DAI)</b>	
Adherent	44(69.80%)
Non-adherent	19(30.20%)

The study was conducted in a sample size of 63 individuals with Bipolar affective disorder. The age of the patients in the sample ranged from 18 years to 54 years. 52.4% of patients were on unsupervised medications, 54% with a significant stressor in the recent past. On assessing drug adherence based on Drug attitude inventory, 69.8% were adherent to medications, showing a positive response towards treatment (Table 1). Approximately 70 % showed a positive response towards the treatment. The subjects in our study had good medication adherence showing a mean of 3.21 and a standard deviation of 7.096 with a minimum adherence score of - 19 and a maximum of 15.

We performed simple logistic regression on six variables to assess for possible predictors of non-adherence. These were: age, marital status, number of episodes, supervised or unsupervised medications, presence of any recent stressors and comorbid substance use. The binary dependent variable used was patients with a positive and negative attitude towards medications assessed by Drug Attitude Inventory. Multiple logistic regression revealed that none of the variables was significantly associated with non-adherence.

## DISCUSSION

The study shows that most patients diagnosed with bipolar affective disorder were between 35 and 44 years of age. The subjects in our study had good medication adherence ( $3.12 \pm 7.09$ ), indicating these patients tended to report favourable views towards their psychiatric medications.

Most of the patients were males (60.3%), as against studies by Ballyram et al. and Merikangas et al. (2007), where most patients were females.<sup>12</sup> Approximately three-fourths of the patients had been ill for more than ten years (74.6%), and this is consistent with other studies demonstrating the chronicity of bipolar disorder. 44% of the study population had a family history of mental illness, consistent with other studies that found 40% prevalence.<sup>13</sup>

Estimates of the frequency of non-adherence to antipsychotic medication vary, with review studies suggesting the rate lies between 25 and 55%.<sup>14,15</sup> A study conducted on psychiatric patients showed a mean medication adherence of 8.40 and a standard deviation of 1.49 with a median of 9.00.<sup>16</sup> In another study, medication adherent patients showed a statistically significant higher mean DAI score ( $5.3 \pm 4.4$ ).<sup>17</sup> On contrary to these findings, a high level of negative attitude (78.5%) with mean  $\pm$  SD of  $-1.705 \pm 3.58$  towards medication is observed in another study.<sup>18</sup>

Although not significant ( $p > 0.05\%$ ) in our study, the sociodemographic and psychiatric data were slightly positively correlated. It is possible that a larger sample size would help determine the association between these variables.

The limitation of the study was our small sample size which may have limited our power to detect a

correlation of non-adherence with sociodemographic and psychiatric data. Lack of structured interview, cross-sectional nature of the study, lack of external validity were few other limitations.

## CONCLUSION

Non-adherence to medication regimens is a serious problem. It has many serious effects on the prognosis of the illness and the overall effectiveness of health interventions. Increasing the effectiveness of adherence interventions may have a far greater impact on the health of the population than any improvement in specific medical treatments.

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### Conflicts of interest

There are no conflicts of interest.

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