

# Effectiveness of Psychiatric Nursing Intervention on Medication Adherence of Persons with Bipolar Affective Disorder

Angshu Lama<sup>1</sup>, Arunjyoti Baruah<sup>2</sup>

<sup>1</sup>Department of Psychiatric Nursing, <sup>2</sup>Department of Psychiatric Nursing, Lokopriya Gopinath Bordoloi Regional Institute of Mental Health, Tezpur, India

Corresponding Author: Angshu Lama

DOI: <https://doi.org/10.52403/ijhsr.20220536>

## ABSTRACT

**Context:** Medication non adherence is one of the major barriers in the recovery and the management of persons with Bipolar Affective Disorder in spite of availability of a broad range of pharmacological and psychosocial treatments. Poor medication adherence leads to an increased morbidity and disability and a poor quality of life.

**Aims:** To evaluate the effectiveness of psychiatric nursing interventions in medication adherence of persons with Bipolar Affective Disorder.

**Settings and Design:** An experimental study was conducted at a tertiary mental health care setting in North East India.

**Methods and Material:** Total 58 numbers of patients were randomly selected for the study. 30 in experimental and 28 in Treatment as Usual group. Medication adherence was assessed using the Medication Adherence Rating Scale. Data was collected before and immediately after the psychiatric nursing intervention, post 1 month and 3 months. Both descriptive and inferential analysis of collected data were done using SPSS 23.0 version.

**Results:** Results showed a significant improvement in the medication adherence following the psychiatric nursing intervention.

**Conclusions:** The study results suggested that psychiatric nursing interventions may be used for a better outcome of treatment for persons with Bipolar Affective Disorder.

**Keywords:** Psychiatric Nursing, Medication Adherence, Bipolar Affective Disorder.

## INTRODUCTION

Disorders of mood sometimes called affective disorders make up an important category of psychiatric illness.<sup>1</sup> Bipolar disorder is often quite debilitating because patients usually have highly recurrent courses of illness. Patients who have had one manic episode nearly always had another episode even if they were maintained on medications.<sup>2</sup> Bipolar affective disorder (BPAD) is often associated with severe social and occupational deficits that persist after the

acute phase and during maintenance on pharmacotherapy.<sup>3</sup>

According to the Mental Health Survey of India 2015-16 BPAD had an overall weighted prevalence of 0.3% for current and 0.5% for lifetime experience.<sup>4</sup> The impact of mental disorders on communities is large and manifold. There is the cost of providing care, the loss of productivity, and some legal problems (including violence) associated with some mental disorders. One specific variety of burdens is the health burden.<sup>5</sup>

There is a myth that people with mental disorders comply poorly with treatment. Persons with mental illness are no more likely than patients in other medical specialties to go against the advice of their doctor. It has been found that one-third of patients leaving a general adult psychiatry ward can be expected to be non-compliant within two years. In two thirds of case re-hospitalization is the result of complete or partial noncompliance. After one year of first hospitalization, 40% of relapse results from non-adherence to medication.<sup>6</sup> Patients with psychiatric illness typically have great difficulty following a medication regimen, but they also have the greatest potential for benefiting from adherence. Rates of adherence among persons with BPAD has been found to be as low as 35 percent.<sup>7</sup>

The objectives of the present study were to assess the medication adherence of persons with BPAD and to evaluate the effectiveness of psychiatric nursing intervention on medication adherence, of persons with BPAD.

## **MATERIALS & METHODS**

### **Approach and Design**

An evaluative approach with two group Experimental and Treatment as Usual (TAU) group was adopted for the study.

### **Setting of Study**

The study was conducted at the inpatient department of a tertiary care mental hospital at North east India where the treatment facilities are provided free of cost by a multidisciplinary team.

### **Sample**

The study adopted a random sampling method. Sample size was calculated from the result of pilot study. The calculated sample size was 24 in each group, in order to make a round figure and considering drop outs the sample was determined to be 30 in each group. 60 persons with BPAD was selected by systematic random sampling technique and randomly assigned following coin toss method to the two groups. In the

TAU group two study participants were excluded from the final analysis because they discontinued during the 3 month follow up assessment. After exclusion of participants, number of participants in treatment group was 30 and in TAU group was 28 for the data analysis. Further it was presumed that the samples followed a normal distribution.

- The Person who was diagnosed with BPAD (F31) according to ICD 10 diagnostic criteria.
- Patients who were admitted in LGBRIMH for treatment.
- Patients aged 18 years and above.
- The Persons with BPAD and their family members who gave consent to participate in the psychiatric nursing intervention programme.
- The person with BPAD who was having more than 1 episode but not more than 5 episodes.

### **Measurement Tools**

#### **Socio-Demographic Performa**

A structured tool including both socio demographic and clinical variables of persons with BPAD.

#### **Medication Adherence Rating Scale questionnaire**

It is a 10- item self-rated, dichotomous answer option questionnaire developed by Thompson et al.<sup>8</sup> Internal consistency and stability is found to be 0.75 and 0.68, respectively. The tool was translated to Assamese language, and the internal consistency of the translated tool was found to be 0.669.

#### **Psychiatric Nursing Intervention**

A pragmatic approach was adopted in the psychiatric nursing intervention. Initially the issues of medication adherence were identified and psychiatric nursing intervention module was developed based on the issues identified. The developed Psychiatric nursing intervention module was validated by experts from mental health services. The psychiatric nursing intervention module was based on the

theories of Cognitive behavior therapy, psychoeducation, family therapy, motivation enhancement therapy, and social rhythm therapy. The psychiatric nursing interventions was administered in 10 sessions, interventions were provided to the persons with BPAD and their family members.

### Statistical Analysis

Both descriptive and inferential analysis of collected data were done using SPSS 23.0 version.

## RESULT

### Description of sociodemographic and clinical variables of the person with BPAD

According to the group wise distribution the mean age of the person with BPAD was 35.30 years in the experimental group and 34.36 years in TAU group. There were 20 male and 10 female in experimental group and 23 male and 5 female in TAU group respectively. Overall 37 (63.7%) was married, 16 (27.5%) was unmarried, 2 (3.5%) each was separated, divorcee respectively and 1 (1.8%) was a widow/widower from both the groups. 22 (73.3%) in Experimental and 16 (57.1%) in TAU group belonged to Hindu religion, while 8 (26.7%) in Experimental and 12 (42.9%) in TAU group belonged to Islam or others. Out of 58 persons with BPAD 5 (5.15%) were illiterate, 19 (31.0%) completed middle school, 10 (17.5%) completed their high school, 12 (20.85%) were intermediate or diploma pass and 9 (15.35%) were graduate. 7 (23.3%) each in experimental group were Skilled Worker/ Shop/Market sales worker, Agriculture/ Fishery Worker whereas in the TAU group majority of the persons 10 (35.7%) were

doing elementary occupation. Majority were hailing from rural background 22 (73.3%) in Experimental and 17 (60.7%) in TAU group. Majority 12 in experimental and 9 in TAU group respectively had a monthly family income ranging between 6,327-18952, majority i.e., 12 (40%) belonged to the lower middle-class group in the experimental group and 12 (53.6%) belonged to the upper lower class in the TAU group. Majority of the participants i.e., 16 belonged to Nuclear in Experimental group and 16 belonged to Joint in TAU group.

The mean duration of illness of the person with BPAD in the experimental group was 9.93 and 12.64 years in the TAU group. The mean age of onset of illness was 25.57 years in Exp group and 21.71 years in TAU group. The mean duration of treatment was 9.73 years in Exp. Group and 12.00 years in TAU group. 15 in experimental group was admitted for the second time and 11 in TAU group was admitted for the third time. Majority i.e., 20 in experimental and 16 in TAU group respectively had 4-6 numbers of illness episodes The mean period of remission was 13.03 and 17.29 months in the Experimental and TAU group respectively, Majority i.e., 18 number of persons in Experimental group, 17 number of persons in TAU group had a positive history of substance use, 28 (93.3%) in Experimental group and 27 (96.4%) in TAU group came for irregular follow up, 28 (93.3%) in Experimental group and 20 (71.4%) in TAU group did not take their medications regularly and majority of the persons 20 (66.7%), 21 (75%) in both experimental and TAU group respectively had a positive family history of mental illness.

### Medication Adherence

Table 1: Description of MARS score of persons with BPAD in terms of mean and standard deviation.

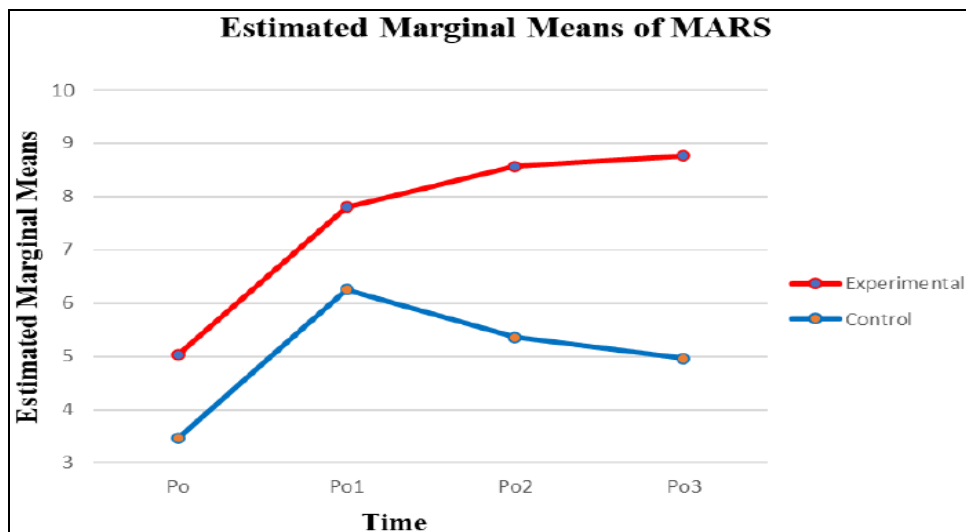
Variable	Exp. (N=30)	TAU (N=28)	t-value	df	p-value
	Mean (SD)	Mean (SD)			
MARS	5.03 (2.13)	3.46 (1.17)	3.44	56	0.002

**Table 2: Comparison of the Difference of MARS score (T-test difference table) between pre (P<sub>0</sub>) and post (P<sub>3</sub>) 3rd month) of psychiatric nursing intervention.**

Variable	Exp Group Difference in Pre and Post Assessment (3 month) score N=30	TAU Group Difference in Pre and Post Assessment (3 month) score N=28	t - value	df	p - value
	Mean (SD)	Mean (SD)			
MARS	3.77(2.22)	1.50(1.00)	4.95	56	<0.001

Medication Adherence as measured by MARS showed increased mean value from 5.03 (SD 2.13) to 8.77 (SD 0.94) in Exp group, and 3.46 (SD 1.17) to 4.96 (SD 1.04) in TAU group after the psychiatric nursing intervention. The result of RMANOVA indicated that within subject effects, there was a significant improvement in the total MARS score during the study period ( $p < 0.001$ ). The between subject effects showed that there was a significant difference in MARS score between the two groups ( $p < 0.001$ ). The interaction effect between time and group showed that the change of MARS score was significantly different for the two groups ( $p < 0.001$ ).

Posthoc pairwise comparison was made with Bonferroni adjustment to see at which period the change in treatment adherence had occurred. In the experimental group the pair wise comparison showed there was a significant change in the mean difference between pre to post1 (MD -2.77,  $p < 0.001$ ), pre to post2 (MD -2.71,  $p < 0.001$ ) and pre to post3 (MD -2.61,  $p < 0.001$ ) significant changes was also seen in the pair wise comparison of TAU group pre to post1 (MD -2.79  $p > 0.001$ ), pre to post2 (MD -1.89,  $p > 0.001$ ) pre to post3 (MD -1.50,  $p > 0.001$ ), post 1 to post 2 (MD 0.89,  $p < 0.001$ ), post 1 to post 3 (MD 1.29,  $p < 0.001$ ), post 2 to post 3 (MD 0.39,  $p = 0.006$ ).



**Fig 1:** Graph shows the Medication Adherence Rating Scale (MARS) score of persons with BPAD at pre-test, immediately, one month and three months after psychiatric nursing intervention between the experimental and TAU group.

## DISCUSSION

Different studies have defined and assessed adherence in different ways. Compliance to the treatment is an important factor in persons with BPAD. Changes in mean score of MARS was seen in both the groups though the change was seen more in the experimental group. The findings were similar to that of Pakpour et al. where the researchers had found improved Medication adherence in both the experimental and

TAU group, with a greater improvement seen among patients in the experimental group after the interventions<sup>9</sup>. In the TAU group there was maximum change seen immediately after intervention that is during discharge, but then in the 1 month and 3-month assessment there was a decline in the score. The result may be influenced by the routine psychiatric nursing care received by the persons with BPAD during their stay in the hospital. The pre intervention score of

5.03 as shown in Table 1 matches the findings of Lingam et al. where the researchers had found that the estimates of medication non adherence for unipolar and bipolar disorders range from 10 to 60% (median 40%).<sup>10</sup> In a study conducted on 1831 persons with bipolar disorder, 76.6% were adherent and 23.4% were non adherent to their medication during the maintenance phase.<sup>11</sup>

While observing the result from RMANOVA there was significant difference within as well as between the groups over a period of time. The results also explain the time and group interaction effect is significant. Moreover, when the pairwise comparison between baseline assessment, post 1, post 2 and post 3 as shown in Fig 1 was done it was found that there was change in both experimental and TAU group. The psychiatric nursing intervention programme included the psychoeducation about Bipolar Affective Disorder, counselling, telephone reminders for follow up, explanation of memory cues to persons with BPAD, and their family members. The psychiatric nursing interventions might have helped the patient understand about his illness, thus motivating him to adhere with the medication. It has also been suggested by previous researches that poor compliance is related to illness related factors such as insight, fear of relapse, thus psychoeducation to patients, and caregivers about nature of illness and need to continue treatment improves compliance.<sup>12</sup> In another study conducted in the north eastern region of the country it was found that the commonest reasons for non-compliance were feeling of subjective wellbeing, paranoia to medication, insight, medication side effects, hopelessness of cure, lack of caregiver, financial problems, too many medication.<sup>13</sup> Various interventions were tried earlier by various researchers to improve medication adherence, many of them had shown a promising outcome. Literature suggests that psychoeducation is an effective intervention to enhance treatment adherence thereby

decreasing negative consequences of non-adherence.<sup>14</sup> Eker et al. in their study had reported that after six weeks of psychoeducation program treatment adherence rate of patients in the intervention group had increased from 40% to 86%.<sup>15</sup> Persons with BPAD should have the opportunity of being evaluated for the quality of medical and pharmaceutical care that they receive. Counseling on appropriate use of medications improves the medication adherence rate and also aids to improve their quality of life.<sup>16</sup> George et al. in their study also have suggested that continuous reinforcement and support of health care team members can improve the treatment adherence of persons with BPAD.<sup>17</sup>

The findings of the study suggests that psychiatric nursing intervention can be incorporated in the routine clinical care of persons with BPAD. The study result is also indicative for the need of continuing the psychiatric nursing intervention program in the follow up visits of patients. Combined intervention that includes thorough client instruction, counselling, reminders, close follow up can improve adherence and treatment outcomes. Recognition and management of medicine side effects by mental health nurses can also support medication adherence.<sup>18</sup> Mental health nurses have an important role to play in this process.

Medication adherence rate was poor in all patients before intervention, the finding is consistent with the findings of other studies in which non adherence rate was reported to be high in persons with BPAD. In a single blinded randomized control trial on 76 persons with BPAD results showed the MARS score before intervention (group psychoeducation) 6.8 and post score 9.4 showing a significant difference between the experimental and control group ( $p < 0.001$ ).<sup>19</sup> Researchers suggest that cognitive behavioural therapy, group psychoeducation, family therapy may be beneficial as adjunct to pharmacological maintenance treatments for the prevention of relapse in stable patients.<sup>20</sup>

## CONCLUSION

A number of challenges remain in designing, testing and implementing interventions that address the issue of non-adherence in bipolar disorder. Treatment adherence which differs widely among individuals with BPAD affect the individuals experience with his illness and is very important that these attitudes and experiences are incorporated in the interventions. The effectiveness of interventions to enhance adherence relies on the ability to address factors that are changeable, and most relevant for treatment adherence, quality of life for a given individual. The factors may differ depending on the individuals age, gender, culture, past and present experiences with medication and treatment. Also, interventions that address costs and burden associated with treatment adherence are important to incorporate into a practical and effective intervention to optimize medication adherence and quality of life.

**Acknowledgement:** None

**Conflict of Interest:** None

**Source of Funding:** None

**Ethical Approval:** Ethical clearance was taken from Institutional Ethics Committee Reg No. LGB/ACA/STC/2560/07/1613, IEC no. 297

## REFERENCES

1. Sadock BJ, Sadock VA. Synopsis of Psychiatry. 10<sup>th</sup> edition. New Delhi: Lipincott Williams & Wilkins; 2012. Pg 527-562
2. Solomon DA, Keitner GI, Miller IW, Shea MT, Keller MB. Course of illness and maintenance treatments for patients with bipolar disorder. J Clin Psychiatry [Online] 1995 Jan [cited 2018 May 10];56(1):5-13. PMID: 7836345. Available from [pubmed.ncbi.nlm.nih.gov](http://pubmed.ncbi.nlm.nih.gov)
3. Griez Eric JL, Fraveli C, Nutt DJ, Zohar J. Mood disorders clinical management and research issues. John Wiley and Sons. England 2005. Pg 103-104
4. National Mental Health Survey. [cited 2021 Aug 10] Available from: <http://indianmhs.nimhans.ac.in/>
5. Gururaj G, Varghese M, Benegal V, Rao GN, Pathak K, Singh LK, et al. National Mental Health Survey of India, 2015-2016. Prevalence, Pattern and Outcomes. Bengaluru: National Institute of Mental Health and Neuro Sciences, NIMHANS Publication No. 129, 2016.
6. Buchanan A. Treatment compliance in schizophrenia. Advances in Psychiatric Treatment [online] 1998 July [cited 2021 Nov 10];4(4):227-234. Available from: <https://www.cambridge.org>
7. Osterberg L, Blaschke T. Adherence to Medication. New Engl J Med [online] 2005 August 4 [cited 2021 Dec2]; 353(5):487-497. Available from: <https://5y1.org/download/8ec10df541e79ea61d19a2bb67bf14bd.pdf>
8. Thompson K, Kulkarni J, Sergejew AA. Reliability and validity of a new Medication Adherence Rating Scale (MARS) for the psychoses. Schizophrenia Research [online] 2000 May 5[Cited 2017 Jul10];42(3) 241-247. Available from: <https://www.sciencedirect.com>
9. Pakpour AH, Modabbernia A, Lin CY, Saffari M, Asl MA, Webb TL. Promoting medication adherence among patients with bipolar disorder: a multicenter randomized controlled trial of a multifaceted intervention. Psychological medicine [online]2017 Oct [cited 2021 Nov 20];47(14):2528-39. Available from: <https://www.cambridge.org/core>
10. Lingam R, Scott J. Treatment non-adherence in affective disorders. Acta Psychiatrica Scandinavica [Online]2002 Mar [cited 2021 Nov 20];105(3):164-72. Available from: <https://onlinelibrary.wiley.com/>
11. González-Pinto A, Reed C, Novick D, Bertsch J, Haro JM. Assessment of medication adherence in a cohort of patients with bipolar disorder. Pharmacopsychiatry [Online] 2010 Sep 14 [cited on 2021 Nov 2];43(7):263-70. Available from: <https://europemc.org/article/med/20842617>
12. Boorla V, Srinivasa S. A study to assess factors affecting drug-compliance in patients with schizophrenia and bipolar

- disorder. *Telangana journal of psychiatry*. 2018 Jun 3;4(1). [cited on 5 Aug 2019]. Available from: <https://www.tjponline.org/>
13. Maan CG, Hussain M, Heramani N, Lenin RK. Factors affecting non-compliance among psychiatric patients in the regional institute of medical sciences, Imphal. *IOSR J Pharm [Online]* 2015 Jan [cited on 2021 Dec 10];5(1):1-5. Available from: <https://scholar.google.com/>
  14. Jaishri, Rental S. Efficacy of psychoeducation to improve medication adherence among bipolar affective disorder. A systematic review. *Indian J Psychiatric Nursing [online]*2021 [cited 2021 Nov 30]; 18:55-60. Available from: <https://www.ijpn.in/text.asp?2021/18/1/55/318675>
  15. Eker F, Harkin S. Effectiveness of six-week psychoeducation program on adherence of patients with bipolar affective disorder. *J Affect Disord [Online]* 2012 [cited 2019 March 10];138(3):409-416. Available from: <https://pubmed.ncbi.nlm.nih.gov/22316565/>
  16. Mishra A, Krishna GS, Alla S, Kurian TD, Kurian J, Ramesh M et al. Impact of Pharmacist-Psychiatrist Collaborative Patient Education on Medication Adherence and Quality of Life (QOL) of Bipolar Affective Disorder (BPAD) Patients. *Front Pharmacol. [online]* 2017 Oct 10 [cited 2019 June 22]; 8:722. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5641349/>
  17. George LS, Sharma PS, Nair S. Effect of psycho-educative intervention on adherence to treatment, knowledge and attitude among persons with bipolar affective disorder (BPAD)–randomized controlled trial. *J Nurs Health Sci [online]*. 2013 Jul-Aug [cited Nov 17 2021]; 1:12-7. Available from: <https://www.researchgate.net/>
  18. Coombs T, Deane FP, Lambert G, Griffiths R. What influences patients' medication adherence? Mental health nurse perspectives and a need for education and training. *International journal of mental health nursing [Online]*. 2003 Jun [cited 2021 Nov 11];12(2):148-52. Available from: <https://onlinelibrary.wiley.com/>
  19. Rahmani F, Ebrahimi H, Ranjbar F, Razavi SS, Asghari E. The effect of group psychoeducation program on medication adherence in patients with bipolar mood disorders: a randomized controlled trial. *J Caring Sci [Online]* 2016 [cited 2019 Aug 8]; 5 (4): 287-97. Available from: <http://journals.tbzmed.ac.ir/JCS>
  20. Beynon S, Soares-Weiser K, Woolacott N, Duffy S, Geddes JR. Psychosocial interventions for the prevention of relapse in bipolar disorder: systematic review of controlled trials. *The British Journal of Psychiatry [Online]* 2008 Jan [cited 2019 Aug10];192(1):5-11. Available from: <https://www.cambridge.org>

How to cite this article: Angshu Lama, Arunjyoti Baruah. Effectiveness of psychiatric nursing intervention on medication adherence of persons with bipolar affective disorder. *Int J Health Sci Res*. 2022; 12(5):332-338. DOI: <https://doi.org/10.52403/ijhsr.20220536>

\*\*\*\*\*