

# Treatment Non-Compliance In Patients Suffering From Schizophrenia And Bipolar Affective Disorder (BPAD): A Comparative Study

Paudel K<sup>1</sup>, Subedi S<sup>2</sup>

1. Lecturer, MMIHS, Kathmandu, Nepal 2. Associate Professor, Department Of Psychiatry, UCMS, Bhairahawa, Nepal

E-mail \*Corresponding author : [paudel.k45@gmail.com](mailto:paudel.k45@gmail.com)

## Abstract

**Introduction:** Non-adherence to appropriately prescribed medication for psychiatric disorders prevents patients from realizing the full benefits of their treatment and negatively impacts on individuals, their families and the healthcare system. Understanding and reducing non-adherence is therefore a key challenge to quality care for patients with psychiatric disorders. This finding highlights the prevalence, consequence of non-adherence and barriers to adherence. Therefore, the main objective of this study was to determine the incidence and factors associated with medication non-compliance among patients suffering from schizophrenia and bipolar affective disorders.

**Material And Method:** This cross-sectional study included 94 schizophrenia and 76 bipolar affective disorder subjects who were visited psychiatric OPD of tertiary level hospital and disproportionate stratified random sampling method. An anonymous socio-demographic as well contributing factor questionnaire pre tested, semi structured pro forma by interview method and a clinical proforma designed by Morisky, the 8-item Morisky Medication Adherence Scale (MMAS-8) were used for data collection.

**Results:** The prevalence of non-compliance was 88%, the independent predictors of non-compliance were; seeking for traditional/spiritual treatment, weight gain as side effects of drugs, increased number of medication ( $p=0.038$ ), beginning of medication start ( $p=0.057$ ), unemployment ( $p=0.059$ ), low level of insight/education ( $p=0.044$ ), male as gender ( $p=0.016$ ).

**Conclusion:** Based on the outcome of the study, we recommend the development of psycho-educational programmes on compliance and the active involvement of the relatives and significant others in the management of patients of mentally ill patients.

**Keywords:** Schizophrenia, BPAD, Compliance, Non-Compliance

## INTRODUCTION

The World Health Organization has promoted the term "adherence" for use in treatment of chronic disorders to mean "the extent to which a person's behavior—taking medication, following diet, and/or executing lifestyle changes corresponds with agreed recommendations from a health care provider."<sup>1</sup>

Ghimire<sup>2</sup> suggested that non-compliance or non-adherence to treatment is the degree to which a patient does not follow the treatment

advise of treating doctor. In other words, it is the failure of the patient to follow the prescribed treatment regimen.

Non-compliance is considered to be the major challenges in the treatment of chronic illnesses including Schizophrenia and BPAD globally due to long duration of treatment and numerous other related factors.<sup>3</sup> Similarly, approximately more than one third left medication thinking being all right and other small percentage left due to hallucination, poor insight and cognitive impairment.<sup>4</sup>

Non-compliance with antipsychotic medication is observed in around 50% of people with schizophrenia and is a major preventable cause of psychiatric morbidity.<sup>5</sup> Approximately 40% of patients stop taking their prescribed antipsychotic medication within 1 year and about 75% discontinue their medication within 2 years.<sup>6</sup>

Though there are lots of Psychiatric researches done in Nepal, there is a dearth of research on medication compliance, which is a very important mental health issue. Medication compliance affects intervention outcomes. Therefore, this study was designed to examine medication compliance among patients with Schizophrenia and BPAD with the objective to i) determine the incidence and factors associated with medication non-compliance among patients suffering from schizophrenia and bipolar affective disorders ii) compare noncompliance between the two disorders.

**MATERIAL AND METHOD**

This was a cross sectional study done in Outpatient Unit, Department of Psychiatry, Universal College of Medical Science, Bhairahawa, Nepal. The study duration was 6 months i.e. from 1<sup>st</sup> June 20118 to 30<sup>th</sup> Nov 2018. Non-compliance has been defined as per the definition of MMAS-8 for this study Patients diagnosed as schizophrenia and BPAD under treatment for at-least six dmonths and accompanied by relatives were included in the study by stratified random sampling (disproportionate) method. A Sample Size of 170 was calculated ( $N = 4pq/I^2 = 4 \times 38 \times 62 / 57.76 = 163$ , where,  $p=38\%$ , After adding 5% non-response rate,  $n = 163+8=171$ , rounded to near tens, 170) The overall prevalence of non-adherence among patients with mental disorders in study done in Delhi, India was 38%<sup>8</sup>. Subjects meeting the inclusion criteria: patients above 18 years old who were diagnosed with schizophrenia or BPAD by psychiatrist attending at psychiatric OPD for follow up since at least 6 months were enrolled in the study after taking the written informed consent. Ethical approval for the study was obtained from Institutional Review Committee. Confidentiality of the data was maintained and the data was used for research purpose only. Data were collected using Socio-demographic

data sheet, Data sheet for various factors related to non-compliance and Morisky 8-Item Medication Adherence Questionnaire. Descriptive summaries of socio-demographic and contributing factors for all patients were analyzed. Chi square test was applied for categorical variables. The independent variables included were specified a priority, based on the literature reviewed.

**RESULT**

**Table 1: Demographic Characteristics Of Diagnosed Mental Illness (N=170)**

Characteristics	Bipolar Disorder (n=76) n (%)	Schizophrenia (n = 94) n (%)
Gender		
Male	55(58.5)	42(55.2)
Female	39(41.1)	34(44.8)
Age group		
≤ 20 years	11(11.70)	4 (5.26)
21 – 39 years	47(50.00)	38 (50.00)
40 – 59 years	35(37.23)	29(38.15)
60+ years	1(1.06)	5(6.57)
Marital status		
Married	68(72.3%)	67(88.1%)
Unmarried	26(27.7%)	9(11.9%)
Occupational status		
Employed	32(34.04)	28(36.84)
Unemployed	62(65.95)	48(63.15)
Education status		
Literate	84(89.36)	65(85.52)
Illiterate	10(10.63)	11(14.47)
Education level	(n=84)	(n=65)
Basic	40(47.61)	27(41.53)
Secondary	31(36.94)	25(38.46)
University	13(15.47)	13(20.00)
Type of family		
Joint	48(51.07)	43(56.57)
Nuclear	46(48.93)	33(43.43)
Economic status		
low income	57(60.64)	50(65.79)
middle income	37(39.36)	26(34.21)

There were 170 participants among them maximum (55.2%) were patient with schizophrenia rest of them were BPAD patient. Mean age of participants was 35.78 with SD ±12.25. Majority of the participants (72.3% and

88.1%) were married in schizophrenia and bipolar affective disorder respectively. Unemployed patients were more diagnosed with schizophrenia (65.95%) and BPAD (63.15%). Though literate patient were diagnosed with schizophrenia (89.36%) and BPAD (85.52), those who had basic level educated patients were diagnosed with schizophrenia and BPAD. Research result showed that 51.07% patient of schizophrenia and 56.57% patients of BPAD were from joint family. Nearly two third of patient with schizophrenia (60.64%) and BPAD (65.79%) had low economic condition. study showed that low economic condition of the patients are more likely to having schizophrenia and BPAD patients. (Table 1.)

**Table 2 : Level of Medication Non-compliance among Patient with Schizophrenia (F20) versus Bipolar Affective Disorder Patients (BPAD) (N=170)**

Level of non-compliance	Health condition	
	Schizophrenia (n=94) n (%)	BPAD (n = 76) n (%)
Low non-compliance	10(10.63)	10(13.15)
Medium non-compliance	22(23.40)	19(25.00)
High non-compliance	62(65.95)	47(61.84)

**Total non-compliance =150 (88.23%)**

It was found that higher non-compliance was in patient with schizophrenia (65.95%) in comparison to BPAD patients (61.84%). In contrast, there was high compliance or low non-compliance in BPAD patients (13.15%) in comparison to patient with schizophrenia (10.63%). (Table 2) With regards to association between noncompliance and demographic characteristics, there was statistically significant relationship between gender (p=0.016), education status (p=0.014) as well as educational level (p=0.044) and occupation (P=0.059) in BPAD patients. There were no statistically significant between gender, age, marital status, type of family, education status, education level, occupation and schizophrenia. Other socio-demographic variables such as, age, marital status, type of family did not differ significantly between the two groups. (Table 3.)

**Table 3: Factors Associated with Medication Non-compliance among Patient with Schizophrenia (F200) and Bipolar Affective Disorder (BPAD) Patients Non-compliance by demographic characteristics.**

Variable	Health condition		
	F20 (n=84) No. (%)	BPAD (n=66) No. (%)	P
Gender			F20   BPAD
Male	49(58.3)	40(60.61)	NS   <b>0.016*</b>
Female	35(41.66)	26(39.39)	
Age			NS   NS
<40 years	51(60.71)	37(56.06)	NS   NS
≥40 years	33(39.29)	29(43.94)	
Marital status			NS   NS
Married	61(72.61)	58(87.87)	NS   NS
Unmarried	23(27.38)	8(12.13)	
Type of Family			NS   NS
Nuclear	40(47.61)	31(46.96)	NS   NS
Joint	44(52.38)	35(53.03)	
Education status			NS   <b>0.014*</b>
Literate	76(90.47)	59(89.39)	NS   <b>0.044*</b>
Illiterate	8(9.52)	7(10.61)	
Education level	(n=76)	(n=59)	NS   <b>0.044*</b>
Basic	35(46.05)	25(42.37)	NS   <b>0.059*</b>
Secondary	29(38.15)	21(35.59)	
University	12(15.78)	13(22.03)	
Occupation			NS   <b>0.059*</b>
Employed	30(35.71)	27(40.91)	NS   NS
Unemployed	54(64.29)	39(59.09)	
Economic status			NS   NS
Low income	49(58.33)	42(63.63)	NS   NS
High income	35(41.67)	24(36.37)	

\*p<0.05 = significant, NS=not significant

**Table 4: Factors Associated with Medication Non-compliance among Patient with Schizophrenia (F200) and Bipolar Affective Disorder (BPAD).**

\*p<0.05 = significant, NS=not significant

Non-adherence factors		Health condition		
Factors	F20 (n =84) n (%)	BPAD (n =66) n (%)	P	
			F20	BPAD
Treatment related factors	Duration of illness			
	1-15years	78(92.86)	60(90.91)	NS
	16-30 years	6(7.14)	6(9.09)	0.057*
	Duration of treatment			
	1-10 years	72(85.71)	59(89.39)	NS
	11-20 years	12(14.29)	7(10.61)	NS
	Co morbidity			
	Yes	13(15.48)	16(24.24)	NS
	No			NS
	Seeking traditional healer			
	Yes	42(50.00)	46(69.70)	0.016*
	No	42(50.00)	20(30.30)	0.015*
	Number of medicine			
	1-3	45(53.57)	34(51.51)	0.028*
	4-6	49(58.33)	32(48.49)	NS
Many pills to take				
Yes	38(45.24)	27(40.91)	NS	
No	46(54.76)	39(59.09)	NS	
Cost of travelling				
≤1000	77(91.67)	63(95.45)	NS	
1001-2000	7(8.33)	3(4.45)	NS	
Cost of consultation(Rs.)				
≤10000	82(97.62)	60(90.91)	NS	
10001-20000	2(2.38)	6(9.09)	NS	
Medicine side effect related factors	Sedation			
	Yes	62(93.93)	45(68.18)	NS
	No	22(6.07)	21(31.82)	NS
	Dizziness			
	Yes	57(67.85)	44(66.66)	NS
	No	27(31.15)	22(33.34)	NS
	GI complication			
	Yes	29(34.52)	24(36.36)	NS
	No	55(65.48)	42(63.64)	NS
	Weight gain			
Yes	54(64.28)	45(68.18)	0.003*	
No	30(35.72)	21(31.82)	0.010*	
Neuromuscular problems				
Yes	35(41.67)	32(48.48)	NS	
No	49(58.53)	34(51.52)	NS	
Sexual problems				
Yes	14(16.66)	8(12.12)	NS	
No	70(83.34)	58(87.88)	NS	
Patient related factors	Family support			
	Yes	21(25.00)	54(81.81)	NS
	No	63(75.00)	12(18.19)	NS
	Forgetting to take medicine			
	Yes	48(57.14)	37(56.06)	NS
	No	36(42.86)	29(43.94)	NS
	Feeling better			
	Yes	60(71.42)	47(71.21)	NS
No	24(28.58)	19(28.79)	NS	
Cultural barrier				
Yes	18(21.42)	17(25.75)	NS	
No	66(78.58)	49(74.25)	NS	
Geographical region				
Yes	9(10.71)	5(7.57)	NS	
No	75(89.29)	61(92.43)	NS	

All the factors were classified in three categories: treatment related factors, patient related factors, medicine side effect related factors and patient related factors. study showed that there were statistically significant relationship between duration of illness (p=0.057), seeking traditional healer (p=0.015), weight gain (p=0.010) and BPAD. It means that patients did not continue the psychotropic medicine for the treatment. Similarly, there was statistically significant relationship between seeking traditional healer (p=0.016), number medicine (p=0.028), weight gain (p=0.003) and patients with schizophrenia. Which indicates these factor hinder in compliance medication among these patients. (Table. 4)

**DISCUSSION:**

From the findings of the present study it is clear that more than one factor is responsible for poor or better compliance of therapeutic regimen. Roy R. et al.<sup>7</sup>

Non-adherence to medication regimens is a serious problem. It has many serious effects on prognosis of the illness and overall effectiveness of health systems. Non-adherent patients are more severely ill at the point of readmission to hospital, have more frequent readmissions.<sup>8</sup>

It was reported that poor compliance is a problem in all areas of medicine and psychiatry is no exception.<sup>9,10</sup>

This is evident in our study that 88.23% of the studied psychiatry patients were non-compliant with treatment. This is comparable to a study conducted by Razali et al.<sup>9</sup> among Malay patients found an overall non-compliance rate of 73.3%. Another study by Yang et al. reported by Lama et al.<sup>11</sup> stated that non-adherence falls within the range of 30% to 65% which is lesser than this study.

In the present study, high non-compliance was significantly higher among young mentally ill patients; 58.66% in the age group <40 years and male (59.3%) this is supported by the study done by Livianos-Aldona et al.<sup>12</sup> This is also supported that males were over 3 times more likely to be sub-optimally (low) adherent when compared to females.<sup>13</sup>

In this study, among mentally ill patients, non-compliance was more common in patients with

schizophrenia (56%) in comparison to patient with BPAD (46%). Evidence suggests that more than 50% of people diagnosed with schizophrenia do not comply with treatment.<sup>5</sup> In a review of Fenton et al.<sup>14</sup> it was commented that non-compliance among patients with schizophrenia was consistently associated with severe psychopathology, greater medication side effect, less family and social support, less insight and a less positive doctor-patient relationship.

The current study showed that the major reasons for non-compliance were joint family (52.66%), side effects of medication; sedation (71%), dizziness (67.33%), weight gain (66%) it is also statistically significant, lack of higher education (81%), unemployment (62%) and unawareness of availability of psychiatric service or unawareness of benefits psychiatric treatment or seeking traditional healer instead of psychiatric treatment (58%) which is statistically significant. Ibrahim et al.<sup>15</sup> said that in terms of treatment sought, seeking for traditional African/spiritual treatments apart from the conventional/orthodox care increases the likelihood of sub-optimal adherence by over 6 times. This is consistent with a study reported in Pakistan by Taj and Khan<sup>16</sup> showed that the most common reasons for non-compliance were unawareness of the benefits of treatment (43%), non-affordability of drugs (33.5%), physical side effects (28.5%), no awareness given by the doctor (3%) and unfriendly attitude of doctors (2%). This study revealed that those who are married had higher non-compliance (79.33%) which is consistent with the research study conducted by Centorrino et al.; compliance was higher among patients who were living alone than among those who were living with others, suggesting that personal interactions at visits may represent a significant positive social support.<sup>17</sup>

Considering the realization of importance of treatment most of the patients stop medications because of illiteracy or lack of insight. Similar condition has been described by the study conducted by Taj & Khan that behaviour is further precipitated by the stigma to psychiatric illnesses, treatment from quacks and traditional faith healers and hostility, non-cooperation or inaccessibility of some doctors.<sup>16</sup> It means

insight is a determinant of the significance a patient attaches to any form of treatment. The lack of it, therefore, undermines

The balance between these influences is perhaps determined by patients' expectations of treatment and specific side effects. For example, weight gain attributed to treatment with antipsychotics may contribute to non-adherence among patients who perceive a negative effect on their body image but not among those who are indifferent to their weight status.<sup>18</sup> The experience of symptoms does not improve the likelihood of good compliance and treatment side-effects do not decrease it.<sup>19</sup>

There were some limitations in this study. Sample size is small. Study is confined to a tertiary hospital, which may not necessarily represent the general population of the country. Recall bias associated with self-reporting.

#### **CONCLUSION:**

Non-adherence is a common problem in schizophrenia and BPAD is strongly associated with poorer clinical outcomes. This study reveals that non-compliance rates among schizophrenia and BPAD were comparable to the rates reported in other studies.

This study stresses the factors of non-compliance: treatment related factors such as, seeking traditional healer as alternative treatment, many pills to take, costly treatment, side effects of drugs and patient related factors such as, lack of family support, forgetting to take medicine, feeling better, cultural barriers etc.

**ACKNOWLEDGEMENT:** The authors would like to acknowledge and thank Universal College of Medical Science (UCMS), Bhairahawa, Rupandehi, Nepal and the entire team of Department of Psychiatry UCMS.

**FUNDING:** Research Grant was provided by Universal College Of Medical Sciences, Bhairahawa to support the research financially.

**CONFLICT OF INTEREST:** None

#### **REFERENCES:**

1. Wang X, Zhang W, Ma N, Guan L, Law SF, Yu X, et al. Adherence to antipsychotic medication by community-based patients with schizophrenia

- in China: A cross-sectional study. *Psychiatric Services*. 2016;67(4):431-7.
2. Ghimire SR. Poor medication compliance in schizophrenia from an illness and treatment perspective. *EC Psychology and Psychiatry*. 2017;3:131-41.
  3. Waraich P, Goldner EM, Somers JM, Hsu L. Prevalence and incidence studies of mood disorders: a systematic review of the literature. *The Canadian Journal of Psychiatry*. 2004;49(2):124-38.
  4. Zygmunt A, Olfson M, Boyer CA, Mechanic D. Interventions to improve medication adherence in schizophrenia. *American Journal of Psychiatry*. 2002;159(10):1653-64.
  5. Gray R, Wykes T, Gournay K. From compliance to concordance: a review of the literature on interventions to enhance compliance with antipsychotic medication. *Journal of Psychiatric and Mental Health Nursing*. 2002;9(3):277-84.
  6. Jojo J, Madhan R, Ram D. Incidence and Factors Associated with Medication Nonadherence in Patients with Mental Illness: A Cross-Sectional Study. 2015.
  7. Roy R, Jahan M, Kumari S, Chakraborty P. Reasons for drug non-compliance of psychiatric patients: A centre based study. *Journal of the Indian Academy of Applied Psychology*. 2005;31(1-2):24-8.
  8. Swanson JW, Swartz MS, Wagner HR, Burns BJ, Borum R, Hiday VA. Involuntary out-patient commitment and reduction of violent behaviour in persons with severe mental illness. *The British Journal of Psychiatry*. 2000;176(4):324-31.
  9. Razali M, Yahya H. Compliance with treatment in schizophrenia: a drug intervention program in a developing country. *Acta Psychiatrica Scandinavica*. 1995;91(5):331-5.
  10. Cooper C, Bebbington P, King M, Brugha T, Meltzer H, Bhugra D, et al. Why people do not take their psychotropic drugs as prescribed: results of the 2000 National Psychiatric Morbidity Survey. *Acta Psychiatrica Scandinavica*. 2007;116(1):47-53.
  11. Lama S, Lakshmi K, Shyangwa P, Parajuli P. Level of compliance and factors associated with non-compliance to treatment among the mentally ill patients. *Health Renaissance*. 2012;10(2):113-7.
  12. Livianos-Aldana L, Vila-Gomez M, Rojo-Moreno L, Luengo-Lopez M. Patients who miss initial appointments in community psychiatry? A Spanish community analysis. *International Journal of Social Psychiatry*. 1999;45(3):198-206.
  13. Yang J, Ko Y-H, Paik J-W, Lee M-S, Han C, Joe S-H, et al. Symptom severity and attitudes toward medication: impacts on adherence in outpatients with schizophrenia. *Schizophrenia Research*. 2012;134(2-3):226-31.
  14. Fenton WS, Blyler CR, Heinssen RK. Determinants of medication compliance in schizophrenia: empirical and clinical findings. *Schizophrenia bulletin*. 1997;23(4):637-51.
  15. Ibrahim AWW, Yahya S, Pindar SK, Wakil MA, Garkuwa A, Sale S. Prevalence and predictors of sub-optimal medication adherence among patients with severe mental illnesses in a tertiary psychiatric facility in Maiduguri, North-eastern Nigeria. *Pan African Medical Journal*. 2015;21(1).
  16. Taj R, Khan S. A study of reasons of non-compliance to psychiatric treatment. *Dementia*. 2005;2(5).
  17. Centorrino F, Hernán MA, Drago-Ferrante G, Rendall M, Apicella A, Långar G, et al. Factors associated with noncompliance with psychiatric outpatient visits. *Psychiatric Services*. 2001;52(3):378-80.
  18. Wong M, Chen E, Lui S, Tso S. Medication adherence and subjective weight perception in patients with first-episode psychotic disorder. *Clinical schizophrenia & related psychoses*. 2011;5(3):135-41.
  19. Fujikawa M, Togo T, Yoshimi A, Fujita J, Nomoto M, Kamijo A, et al. Evaluation of subjective treatment satisfaction with antipsychotics in schizophrenia patients. *Progress in Neuro-Psychopharmacology and Biological Psychiatry*. 2008;32(3):755-60.