

Research Article

A Study on Adherence to Medication and Quality of Life Assessment among Patients with Depression and Bipolar Disorder in a Government Tertiary Care Teaching Hospital

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ABSTRACT

Background: Medication adherence is a key determinant of successful treatment outcomes in patients with depression and bipolar disorder. Poor adherence is associated with relapse, hospitalization, and impaired quality of life (QoL). This study assessed medication adherence and its association with QoL among patients with depression and bipolar disorder receiving psychiatric care.

Methods: A prospective analytical study was conducted among 100 adult patients (50 with bipolar disorder and 50 with depression) attending the Psychiatry Department of Government Teaching General Hospital, Eluru, between February and May 2026. Medication adherence was assessed using the Medication Adherence Rating Scale (MARS), while quality of life was evaluated using the WHOQOL-BREF questionnaire. Assessments were performed at baseline and during follow-up visits. Correlation analysis, comparison of means, and binary logistic regression were used to identify factors associated with medication adherence. Statistical significance was considered at $p < 0.05$.

Results: Mean QoL scores improved significantly from 56.56 ± 16.42 at baseline to 100.55 ± 13.99 at the seventh week. Medication adherence scores also increased significantly from 6.71 ± 1.86 to 7.51 ± 1.77 , with the proportion of adherent participants rising from 70% to 84%. Medication adherence demonstrated a significant positive correlation with QoL throughout follow-up ($r = 0.493$ to 0.637). Adherent participants consistently had significantly higher QoL scores than non-adherent participants. Multivariable logistic regression identified bipolar disorder as an independent predictor of medication adherence (AOR=5.959; 95% CI: 1.390-25.542).

Conclusions: Medication adherence improved significantly during follow-up and was strongly associated with better quality of life. Patients with bipolar disorder demonstrated higher odds of adherence than those with depression. Regular patient education, adherence reinforcement, and structured follow-up may enhance treatment outcomes and quality of life among individuals with severe mental illness.

Keywords: Medication Adherence, Quality Of Life, Bipolar Disorder, Depression, WHOQOL-BREF, Medication Adherence Rating Scale, Psychiatry.

INTRODUCTION

Mental health disorders such as depression and bipolar disorder are increasingly recognised as major global concerns, contributing significantly to the burden of disease and disability. The World Health Organisation (WHO) estimates

that over 280 million people suffer from depression world-wide, while bipolar disorder affects approximately 40 to 50 million individuals. These conditions not only impair cognitive, emotional and functional well-being

but also drastically reduce quality of life (QoL) and increase risk of self-harm and suicide.¹

Adherence has been defined as 'the patient's active, willing, and cooperative participation in a mutually acceptable course of behaviour that leads to therapeutic result'.² Factors influencing non-adherence are complex and multifactorial, including poor insight to illness, side effects, stigma, comorbid substance abuse, and cognitive or emotional barriers. Effective pharmacological treatment plays a central role in managing these disorders. However, medication non-adherence remains a persistent issue, with adherence rates ranging between 30% to 60%.³

World Health Organisation (WHO) defines QoL as an individual's perception of their position in life in the context of culture and value systems in which they live and in relations to their goals, expectations, standards and concerns.^{4,5} Quality of life is especially impaired in individuals with severe mental illness, and improving adherence to treatment has been suggested as a key factor in enhancing QoL outcomes. Studies have shown that non-adherence is associated with relapse, rehospitalization, poor clinical outcomes and a significant decline in patient's QoL.^{6,7}

One study reported that about 30% to 50% of psychiatry patients independently altered or discontinued their treatment without medical consultation, highlighting the critical need for monitoring and intervention.⁸

Although several studies have explored the relationship between treatment adherence and quality of life, most of the research is from high-resource countries. Limited data exists from developing regions such as India where cultural, economic and healthcare access factors may play a unique role. Hence, present study aims to assess medication adherence and its association with quality of life among patients diagnosed with depression and bipolar disorder, thereby providing insights for more effective, patient-centred mental interventions. The objectives of this study were to assess the status of medication adherence and quality of life (QoL) among patients diagnosed with depression and bipolar disorder on at least 3 separate occasions and to analyse the relationship between medication adherence and quality of life..

MATERIAL AND METHODS

This prospective analytical study was conducted in the Department of Psychiatry at Government Teaching General Hospital, Eluru District, over a

period of four months from February to May 2026. The study included patients attending both the outpatient and inpatient psychiatric services. A total of 100 participants were enrolled, comprising 50 patients diagnosed with bipolar disorder and 50 patients diagnosed with depression.

Eligible participants were adults aged 18 years and above, irrespective of gender, who had been diagnosed with either bipolar disorder or depression according to the International Classification of Diseases, Tenth Revision (ICD-10) or the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5). All participants had been receiving prescribed psychotropic medications, including antidepressants, antipsychotics, or mood stabilizers, for at least one month before recruitment and were willing to provide written informed consent. Pregnant women, patients with cognitive impairment or neurodevelopmental disorders, and those requiring emergency psychiatric treatment were excluded from the study.

Patients fulfilling the eligibility criteria were recruited consecutively after obtaining written informed consent in the local language. Baseline information was collected on the day of recruitment, and follow-up assessments were performed during the third, fifth, and seventh weeks either during routine hospital visits or through telephone interviews. Participant data were considered complete if information was successfully collected on at least three assessment occasions.

Data were collected using a pre-tested and validated structured questionnaire comprising three sections. The first section captured socio-demographic and clinical characteristics, including age, gender, marital status, educational status, clinical diagnosis, associated comorbidities, and details of prescribed psychotropic medications.

Medication adherence was assessed using the Medication Adherence Rating Scale (MARS), a validated 10-item questionnaire with dichotomous (Yes/No) responses. The scale evaluates medication-taking behaviour, attitudes towards treatment, and perceived adverse effects. Participants were classified as adherent based on the standard MARS scoring criteria, wherein responses of "No" to items 1–6 and 9–10, and "Yes" to items 7 and 8, indicated satisfactory medication adherence.⁹ For analytical purposes, patients with scores 6–10 were considered adherent.

Quality of life was assessed using the World Health Organization Quality of Life-BREF (WHOQOL-BREF) questionnaire. This validated instrument consists of 26 items covering four domains: physical health, psychological health, social relationships, and environmental health. Responses were recorded using a five-point Likert scale, with higher scores indicating better perceived quality of life. Assessments were performed at baseline and repeated during each follow-up visit to evaluate changes over time.¹⁰

Strict confidentiality of participant information was maintained throughout the study. All collected data were used exclusively for academic and research purposes. Participation in the study was entirely voluntary, and participants were informed of their right to withdraw from the study at any stage without affecting their ongoing medical care or treatment.

Prior to the commencement of the study, permission was obtained from the Head of the

Department and the Head of the Institution. The study protocol received approval from the Institutional Ethics Committee (IEC). Written informed consent was obtained from all participants before enrolment, and confidentiality and privacy were maintained throughout the study in accordance with ethical guidelines.

Data were entered into Microsoft Excel 2013 and analysed using Statistical Package for the Social Sciences (SPSS) version 16.0. Categorical variables were summarized using frequencies and percentages, whereas continuous variables were expressed as mean and standard deviation. Comparisons between groups were performed using the unpaired Student's *t*-test and other appropriate parametric statistical tests wherever applicable. Univariate regression analysis was carried out to identify factors associated with medication adherence. A *p*-value of less than 0.05 was considered statistically significant.

RESULTS

Table 1. Socio-Demographic and Clinical Characteristics of The Study Participants

Socio-Demographic Factors		Frequency	Percentage
Age Group	<40 Years	43	43
	40-60 Years	47	47
	>60 Years	10	10
Gender	Male	53	53
	Female	47	47
Marital Status	Married	80	80
	Unmarried	20	20
Education	Up To High School	74	74
	Above High School	26	26
Clinical Diagnosis	Bipolar Disorder	50	50
	Depression	50	50
Comorbidities	Yes	30	30
	No	70	70

Table 1 presents the socio-demographic and clinical profile of the study participants. Nearly half (47%) of the participants were aged 40–60 years, while 43% were younger than 40 years and 10% were older than 60 years. Males constituted 53% of the study population. Most participants were married (80%) and had

education up to high school (74%). Equal proportions of participants were diagnosed with bipolar disorder (50%) and depression (50%). Comorbid medical conditions were present in 30% of the participants, whereas 70% had no comorbidities.

Table 2. Distribution of Mean Quality Of Life Scores at Different Follow-Up Time Points

Time	Mean	SD	P Value
Day1	56.56	16.42	<0.001
3 rd Week	72.73	15.84	
5 th Week	87.96	16.33	
7 th Week	100.55	13.99	

Table 2 demonstrates the changes in mean quality of life scores from baseline to the seventh week of follow-up. The mean quality of life score improved progressively from 56.56 ± 16.42 on Day 1 to 72.73 ± 15.84 at the third

week, 87.96 ± 16.33 at the fifth week, and 100.55 ± 13.99 at the seventh week. The improvement across the follow-up period was statistically significant ($p < 0.001$).

Table 3. Distribution of Mean Medication Adherence Scores at Different Follow-Up Time Points

Time	Mean	SD	P Value
Day1	6.71	1.86	<0.001
3 rd Week	6.99	1.88	
5 th Week	7.51	1.77	

Table 3 shows the mean medication adherence scores measured at baseline, third week, and fifth week. Medication adherence increased steadily from a mean score of 6.71 ± 1.86 on

Day 1 to 6.99 ± 1.88 at the third week and 7.51 ± 1.77 at the fifth week. The observed improvement in medication adherence over time was statistically significant ($p < 0.001$).

Table 4. Distribution of Medication Adherence Status at Different Follow-Up Time Points

Medication Adherence	Frequency	Percentage
Day 1	Adherent	70
	Non Adherent	30
3 rd Week	Adherent	76
	Non Adherent	24
5 th Week	Adherent	84
	Non Adherent	16

Table 4 illustrates the proportion of participants categorized as adherent and non-adherent to medication during follow-up. The percentage of adherent participants increased from 70% at baseline to 76% at the third week and 84% at

the fifth week, while the proportion of non-adherent participants decreased correspondingly from 30% to 24% and 16%, indicating progressive improvement in medication adherence.

Table 5. Correlation between Quality Of Life and Medication Adherence at Different Time Points

Time	Correlation (R) Value	P Value
Day 1	0.493	<0.001
3 rd Week	0.567	<0.001
5 th Week	0.637	<0.001

Table 5 presents the correlation between quality of life and medication adherence during the study period. A significant positive correlation was observed at all assessment points, with the correlation coefficient increasing from 0.493 on Day 1 to 0.567 at the third week and 0.637 at

the fifth week (all $p < 0.001$). These findings indicate that higher medication adherence was consistently associated with better quality of life, and the strength of this relationship increased over time.

Table 6. Comparison of Mean Quality Of Life Scores Between Adherent and Non-Adherent Participants

Time	Non-Adherent Mean (SD)	Adherent Mean (SD)	P Value
Day 1	47.17 (17.19)	60.59 (14.42)	<0.001
3 rd Week	61.54 (16.0)	76.26 (14.14)	<0.001
5 th Week	74.63 (21.17)	90.50 (14.01)	<0.001

Table 6 compares the mean quality of life scores between participants who were adherent and non-adherent to medication at different follow-up time points. At each assessment, adherent participants demonstrated significantly higher

quality of life scores than non-adherent participants. The differences were statistically significant on Day 1 (60.59 ± 14.42 vs. 47.17 ± 17.19), third week (76.26 ± 14.14 vs. 61.54 ± 16.00), and fifth week (90.50 ± 14.01 vs. 74.63

± 21.17), with $p < 0.001$ at all-time points. These findings suggest that medication

adherence is associated with improved quality of life.

Table 7: Binary Logistic Regression Analysis of Factors Associated With Medication Adherence

Variable		AOR (95% CI)	P Value
Age Group	<40 Years	0.763 (0.105-5.534)	0.789
	40-60 Years	2.164 (0.379-12.354)	0.385
	>60 Years	1	
Gender	Male	0.739 (0.215-2.538)	0.631
	Female	1	
Marital Status	Married	1.206 (0.179-8.117)	0.847
	Unmarried	1	
Clinical Diagnosis	Bipolar Disorder	5.959 (1.390-25.542)	0.016
	Depression	1	
Comorbidities	Yes	1.211 (0.310-4.737)	0.783
	No	1	

Binary logistic regression analysis was performed to identify independent predictors of medication adherence among the study participants after adjusting for potential confounding variables. Among the variables included in the model, clinical diagnosis was the only factor significantly associated with medication adherence. Participants with bipolar disorder had significantly higher odds of being medication adherent compared with those diagnosed with depression (Adjusted Odds Ratio [AOR] = 5.959, 95% Confidence Interval [CI]: 1.390–25.542, $p = 0.016$). Age group, gender, marital status, and the presence of comorbidities were not significantly associated with medication adherence after adjustment ($p > 0.05$). These findings suggest that clinical diagnosis independently influences medication adherence, whereas the other socio-demographic and clinical variables did not demonstrate a significant independent effect in the multivariable model.

DISCUSSION

The present study evaluated the effect of medication adherence and quality of life among patients with bipolar disorder and depression. The findings demonstrated a significant improvement in both quality of life and medication adherence over the follow-up period. Furthermore, medication adherence showed a significant positive correlation with quality of life, indicating that patients who adhered better to treatment experienced greater improvements in their overall well-being.

In the present study, the majority of participants were aged 40–60 years, males constituted a slightly higher proportion than females, and most participants were married

and educated up to high school. Bipolar disorder and depression were equally represented in the study population. These findings are comparable with those reported by Mishra et al., who observed that middle-aged adults constituted the majority of psychiatric patients receiving psychoeducational interventions, with a predominance of male participants and a similar distribution of educational status and marital characteristics.¹¹ Similar demographic profiles have also been reported in studies evaluating psychoeducation among patients with bipolar disorder.¹²

A significant improvement in quality-of-life scores was observed from baseline to the seventh week of follow-up. The progressive increase in quality-of-life scores suggests that structured educational interventions, together with regular clinical follow-up, positively influence patients' physical, psychological, and social functioning. These findings are consistent with Michalak et al., who demonstrated that psychoeducation significantly improved quality of life among patients with bipolar disorder after an eight-week intervention.¹² Likewise, Mishra et al. reported substantial improvement in WHOQOL-BREF scores following pharmacist–psychiatrist collaborative education, emphasizing the importance of multidisciplinary patient education in improving long-term outcomes.¹¹

Medication adherence also improved significantly during follow-up. The proportion of adherent patients increased steadily from baseline to the fifth week, while non-adherence decreased considerably. Medication adherence remains one of the major determinants of successful long-term management of bipolar disorder, as poor adherence is associated with relapse, hospitalization, and impaired

functioning.¹³ A systematic review by Jaishri and Rentala concluded that psychoeducational interventions consistently improve medication adherence among patients with bipolar affective disorder, supporting the findings of the present study.¹⁴ Similarly, Depp et al. emphasized that psychosocial interventions are effective in enhancing adherence and reducing relapse rates when combined with pharmacotherapy.¹⁵

An important finding of the present study was the significant positive correlation between medication adherence and quality of life at every follow-up assessment. Furthermore, the strength of this correlation increased over time, suggesting that sustained adherence contributes to progressive improvements in patient well-being. Similar observations have been reported by Michalak et al., who found that better treatment adherence and participation in psychoeducational programmes were associated with improved quality of life among patients with bipolar disorder.¹² Mishra et al. also demonstrated that improvements in medication adherence were accompanied by significant enhancement in quality-of-life scores following collaborative patient education.¹¹

The comparison of quality-of-life scores between adherent and non-adherent participants further supports the importance of treatment adherence. Adherent patients consistently demonstrated significantly higher quality-of-life scores than non-adherent patients throughout the study period. This finding agrees with previous reports indicating that adherence to prescribed treatment is associated with reduced symptom burden, fewer relapses, better psychosocial functioning, and greater life satisfaction.^{13,15} Recent evidence has also shown that structured psychoeducation improves quality of life, medication adherence, and functional recovery among patients with bipolar disorder.¹⁶

The present study has several strengths. It employed a prospective analytical design with repeated follow-up assessments, enabling evaluation of changes in medication adherence and quality of life over time. Standardized and validated instruments, namely the Medication Adherence Rating Scale (MARS) and the WHOQOL-BREF questionnaire, were used to ensure reliable measurement of the study outcomes. Inclusion of equal numbers of patients with bipolar disorder and depression facilitated meaningful comparison between the two diagnostic groups. Furthermore, multivariable binary logistic regression

identified independent predictors of medication adherence after adjusting for potential confounders.

However, the study also has certain limitations. It was conducted at a single tertiary care teaching hospital, which may limit the generalizability of the findings to other healthcare settings or the wider community. The relatively short follow-up period of seven weeks did not permit assessment of long-term medication adherence and sustained quality-of-life outcomes. Medication adherence was assessed using a self-reported questionnaire, which is subject to recall and social desirability bias. In addition, factors such as severity of illness, medication-related adverse effects, family support, socioeconomic status, and health literacy were not comprehensively evaluated and may have influenced adherence. Future multicentre studies with larger sample sizes and longer follow-up durations incorporating objective measures of medication adherence are recommended to validate and extend these findings.

Overall, the findings of the present study reinforce existing evidence that psychoeducational interventions serve as effective adjuncts to pharmacological treatment. Regular patient education, reinforcement of medication adherence, and continuous follow-up may substantially improve treatment outcomes and quality of life among individuals with bipolar disorder and depression. These interventions are feasible in routine psychiatric practice and should be incorporated into comprehensive mental health care programmes.

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