

Original Research Article

A CROSS-SECTIONAL STUDY ON PATIENT SATISFACTION AND ITS ASSOCIATION WITH ADHERENCE AND SIDE EFFECTS OF TREATMENT IN SCHIZOPHRENIA AND BPAD PATIENTS

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ABSTRACT

Background: Patient satisfaction is an important indicator of the quality of psychiatric care and may influence medication adherence and treatment outcomes. Antipsychotic-related adverse effects are common and may negatively affect both adherence and satisfaction. However, data examining the interrelationship between patient satisfaction, medication adherence, and treatment-related side effects among patients with psychotic disorders are limited.

Materials and Methods: A hospital-based cross-sectional study was conducted among 94 clinically stable outpatients (54 with schizophrenia and 40 with BPAD) attending a tertiary care psychiatry department. Patient satisfaction was assessed using the Patient Satisfaction Questionnaire-18 (PSQ-18), medication adherence using the Medication Adherence Rating Scale (MARS-10), and treatment-related adverse effects using the Glasgow Antipsychotic Side-effect Scale (GASS). Group comparisons and correlation analyses were performed, with statistical significance set at $p < 0.05$.

Results: Overall patient satisfaction was high and comparable between patients with schizophrenia and BPAD across all PSQ-18 domains (all $p > 0.05$). Patients with schizophrenia demonstrated significantly higher medication adherence than those with BPAD (MARS score: 5.69 ± 2.14 vs. 4.80 ± 1.87 ; $p = 0.035$), whereas the severity of antipsychotic-related side effects did not differ significantly between the groups ($p = 0.285$). Patient satisfaction showed a moderate positive correlation with medication adherence ($r = 0.587$, $p < 0.001$) and a weak negative correlation with side-effect burden ($r = -0.256$, $p = 0.013$). Medication adherence was also negatively correlated with side-effect severity ($r = -0.467$, $p < 0.001$). Lack of insight was a significantly more common reason for non-adherence among patients with BPAD than schizophrenia (77.5% vs. 40.7%, $p = 0.001$).

Conclusion: Greater patient satisfaction is associated with better medication adherence, while a higher burden of treatment-related side effects is associated with lower satisfaction and poorer adherence. Enhancing patient-centred communication, routinely monitoring adverse effects, and implementing strategies to improve insight may strengthen treatment adherence and overall quality of psychiatric care.

Keywords: Patient satisfaction; Medication adherence; Schizophrenia; Bipolar affective disorder; Antipsychotic side effects; PSQ-18; MARS; GASS.

INTRODUCTION

Patient satisfaction is a key indicator of healthcare quality and patient-centred care, reflecting patients' perceptions of care, fulfilment of expectations, and overall treatment experience. It encompasses accessibility, communication, interpersonal relationships, treatment effectiveness, and continuity of care. Following Donabedian's framework, patient satisfaction has become an essential measure of healthcare quality, with healthcare systems worldwide routinely using patient feedback to evaluate services and guide quality improvement initiatives.^[1] Patient satisfaction is particularly important in psychiatry, where long-term therapeutic relationships, shared decision-making, and sustained medication adherence are essential for successful outcomes. It not only reflects the quality of mental healthcare but also influences treatment adherence, service utilization, relapse prevention, and recovery.^[2]

Patient satisfaction in psychiatry is influenced by demographic, clinical, organizational, and interpersonal factors. An Indian study using the PSQ-18 found moderate overall satisfaction, with the highest ratings for interpersonal aspects of care and time spent with doctors. Satisfaction was highest among patients with depression and lowest among those with schizophrenia, indicating that diagnosis and illness severity significantly influence patient satisfaction.^[3] Earlier meta-analyses similarly demonstrated that patient satisfaction is affected by numerous demographic and clinical variables. Lehman and Zastowny reported that although psychiatric patients generally express favourable opinions regarding services, individuals with chronic psychiatric disorders often report lower satisfaction than patients with less severe illnesses. Likewise, Hall and Dornan observed that increasing age, marital status, better health status, and higher socioeconomic position were associated with greater patient satisfaction across healthcare settings. These findings suggest that satisfaction reflects both characteristics of healthcare delivery and patient-related factors.^[4,5]

Studies have shown that continuity of care improves patient satisfaction in mental health services. Fortin et al. using Andersen's Behavioural Model reported that coordinated, multidisciplinary care, continuity of services, and case management were associated with higher satisfaction, while hospitalization and unmet healthcare needs predicted dissatisfaction, highlighting the importance of recovery-oriented community psychiatric care.^[6] Similarly, Melkam and Kassew reported that nearly two-thirds of psychiatric outpatients in Ethiopia were satisfied with mental healthcare services. Higher satisfaction was associated with strong social support and medication availability, whereas repeated hospitalization and poor support predicted dissatisfaction, highlighting the importance of healthcare accessibility and

psychosocial support.^[7] Another important determinant of satisfaction is a strong therapeutic alliance, characterized by trust, effective communication, and shared decision-making, is a key determinant of patient satisfaction in psychiatry as it improves treatment adherence, confidence in care, and overall satisfaction, whereas poor communication and limited patient involvement contribute to dissatisfaction.^[8]

Haugom et al. reported that many patients with psychotic disorders desired greater involvement in treatment decisions but received inadequate information and limited opportunities for shared decision-making. The study emphasized that patient-centred communication, individualized information, and trusting clinician-patient relationships are essential for improving patient satisfaction.^[9] Although antipsychotics are effective in schizophrenia and bipolar disorder, adverse drug reactions remain a major barrier to treatment adherence and patient satisfaction. Common side effects, including sedation, extrapyramidal symptoms, weight gain, metabolic disturbances, sexual dysfunction, and anticholinergic effects, adversely affect quality of life and contribute to treatment dissatisfaction.^[9,10] Waddell and Taylor developed the Glasgow Antipsychotic Side-effect Scale (GASS), a brief, reliable self-administered tool for assessing antipsychotic side effects. By measuring both side effects and their associated distress, the GASS helps identify the subjective burden of treatment, which strongly influences patient satisfaction and treatment continuation.^[10]

Hynes et al. found that many psychiatric inpatients did not report antipsychotic side effects despite experiencing them. Routine use of standardized side-effect assessment tools improved the detection of adverse effects and supported collaborative treatment decisions, thereby enhancing adherence and patient satisfaction.^[11]

Treatment satisfaction represents an important patient-reported outcome that extends beyond symptom improvement. It encompasses perceptions regarding medication effectiveness, tolerability, convenience, therapeutic relationships, and overall treatment experience. Satisfied patients are more likely to trust healthcare providers, continue treatment, attend follow-up appointments, and experience better long-term clinical outcomes. Conversely, dissatisfaction contributes to medication discontinuation, poor engagement with services, relapse, and increased healthcare utilization.^[12]

Patient satisfaction is strongly associated with medication adherence in psychiatry. Greater satisfaction with treatment, effective communication, fewer side effects, and shared decision-making improve adherence, whereas dissatisfaction increases the risk of treatment discontinuation.^[12-14]

Mishra et al. demonstrated that pharmacist-psychiatrist collaborative patient education significantly improved medication adherence and quality of life. Comprehensive counselling on illness,

medications, and adverse effects highlighted the value of multidisciplinary patient education in improving psychiatric treatment outcomes.^[15]

Reliable assessment tools are essential for objectively evaluating patient satisfaction, medication adherence, and treatment-related adverse effects in clinical research. The Patient Satisfaction Questionnaire-18 (PSQ-18) is one of the most widely used generic instruments for measuring patient satisfaction across seven domains, namely general satisfaction, technical quality, interpersonal manner, communication, financial aspects, time spent with the doctor, and accessibility or convenience. The instrument has demonstrated acceptable psychometric properties and has been successfully applied in psychiatric outpatient settings, including studies conducted in India.^[5]

Medication adherence in psychiatric patients is frequently assessed using the Medication Adherence Rating Scale (MARS), which combines assessment of medication-taking behaviour with patients' attitudes towards psychotropic treatment. The MARS has been widely utilized in schizophrenia, bipolar disorder, and other psychiatric populations because of its simplicity, reliability, and ability to identify patients at risk of non-adherence.^{3,4,5} Similarly, the Glasgow Antipsychotic Side-effect Scale provides a standardized method for identifying and quantifying antipsychotic-induced adverse effects while simultaneously capturing the level of distress associated with each symptom.^[10]

Medication adherence is a key determinant of long-term outcomes in schizophrenia and bipolar affective disorder. Poor adherence contributes to relapse, rehospitalization, functional decline, and reduced quality of life. In schizophrenia, impaired insight, cognitive dysfunction, adverse drug effects, poor therapeutic alliance, and limited family support are major predictors of non-adherence.^[11]

More recently Zhao et al. highlighted that medication adherence in schizophrenia remains a major challenge, with poor communication, inadequate social support, and adverse effects reducing adherence. Multidisciplinary care, long-acting injectable antipsychotics, and digital health interventions were identified as effective strategies to improve adherence and treatment outcomes.^[12]

Antipsychotic medications remain the cornerstone of treatment for schizophrenia and are widely used in bipolar affective disorder for the management of acute mania, psychosis, and maintenance therapy. Despite their established efficacy, antipsychotic medications frequently produce adverse effects that negatively influence treatment continuation. Common adverse effects include extrapyramidal symptoms, sedation, weight gain, metabolic syndrome, sexual dysfunction, hyperprolactinaemia, anticholinergic symptoms, cardiovascular effects, and cognitive slowing. The subjective burden of these adverse effects often exceeds their objective clinical severity and substantially influences patients' willingness to continue medication.^[12]

Acosta et al. identified adverse drug reactions as one of the strongest treatment-related predictors of medication non-adherence. Patients experiencing distressing adverse effects frequently develop unfavourable attitudes toward psychotropic medications, resulting in intentional discontinuation or irregular medication use. Fear of adverse effects was consistently reported as one of the commonest reasons for treatment discontinuation, emphasizing the importance of proactive monitoring and early management of medication-related complications.^[11] The Glasgow Antipsychotic Side-effect Scale (GASS), developed by Waddell and Taylor, is a brief, reliable self-administered tool for assessing antipsychotic-induced adverse effects. By evaluating both side effects and their associated distress, it facilitates routine monitoring, improves clinician–patient communication, and supports collaborative treatment decisions to enhance adherence and patient satisfaction.^{13,14} Evidence indicates that patient satisfaction, medication adherence, and treatment-related adverse effects are closely interrelated. Effective treatment, fewer distressing side effects, good communication, and shared decision-making improve satisfaction and adherence, whereas poor tolerability and inadequate communication increase the risk of treatment discontinuation and poorer outcomes.^[5,8,11,12]

Studies have consistently shown that communication, interpersonal relationships, and therapeutic alliance are stronger determinants of patient satisfaction than organizational factors. Indian and international studies report that effective clinician–patient interactions, technical quality, and continuity of care are the key predictors of satisfaction in psychiatric services.^[4,5,7,16]

Improving patient satisfaction requires not only effective medications but also psychoeducation, shared decision-making, systematic monitoring of adverse effects, and effective clinician–patient communication. Multidisciplinary interventions, including pharmacist–psychiatrist collaboration, further enhance medication adherence and treatment outcomes.^[8,14,15]

Previous studies have independently examined patient satisfaction, medication adherence, and antipsychotic-induced adverse effects, each demonstrating an important influence on treatment outcomes. However, these factors have largely been investigated separately rather than as interrelated components of long-term psychiatric care.^[4–7,9,11–15] Although treatment satisfaction, medication adherence, and adverse effects are closely related, few studies have evaluated all three simultaneously using validated instruments. Moreover, most evidence is derived from Western populations or single-disorder studies, limiting its applicability to routine psychiatric practice in India.^[5,9,11–15] In India, research has largely examined patient satisfaction and medication adherence separately, with limited evidence exploring their relationship with antipsychotic-induced adverse effects in patients

with schizophrenia and bipolar disorder. Data from tertiary care teaching hospitals remain scarce.^[4,15,16] The present study was therefore designed to assess patient satisfaction with psychiatric services among individuals diagnosed with schizophrenia and bipolar affective disorder and to examine its association with medication adherence and antipsychotic side effects. By simultaneously evaluating these interrelated constructs using validated instruments, the study seeks to generate evidence that may facilitate patient-centred psychiatric care, improve therapeutic alliances, promote adherence, reduce treatment discontinuation, and ultimately enhance long-term clinical outcomes and quality of life among patients with severe mental illness. The objectives of this study were to assess patient satisfaction, medication adherence, and psychotropic medication side effects, and to examine the association among these variables in patients with schizophrenia and bipolar affective disorder.

MATERIALS AND METHODS

Study Design and Setting: This hospital-based cross-sectional observational study was conducted in the Department of Psychiatry, Sri Siddhartha Medical College and Hospital, Sri Siddhartha Academy of Higher Education (SSAHE), Tumakuru, Karnataka, India, over a period of one year (November 2024 to November 2025). The study was reported in accordance with the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guidelines for cross-sectional studies.

The study protocol was reviewed and approved by the Institutional Ethics Committee, Sri Siddhartha Medical College and Hospital, SSAHE, Tumakuru (IEC Approval No: SSMC/MED/IEC/005/Feb2025; written informed consent was obtained from all participants prior to enrolment. Confidentiality and anonymity of participant information were maintained throughout the study in accordance with the Declaration of Helsinki.

The minimum required sample size was calculated using the prevalence of patient satisfaction reported by Holikatti et al. (55.3%), with a 95% confidence level and 10% absolute precision, yielding a minimum sample size of 94 participants. Considering a 10% non-response rate, the required sample size was estimated to be 105 participants. During the study period, 94 eligible participants fulfilling the selection criteria were recruited and included in the final analysis.

Adult patients (≥ 18 years) diagnosed with schizophrenia or bipolar affective disorder (BPAD) according to the International Classification of Diseases, Tenth Revision (ICD-10) and receiving pharmacological treatment for at least six months were considered eligible.

Participants were recruited using consecutive sampling, whereby every patient meeting the inclusion criteria and providing written informed

consent during the study period was enrolled until the desired sample size or study duration was completed. Consecutive sampling was chosen to minimise selection bias and to improve the representativeness of the outpatient population.

Patients with severe cognitive impairment, severe intellectual disability, or comorbid substance use disorders (except nicotine dependence) that could interfere with questionnaire completion were excluded.

A total of 94 participants were included, comprising 54 patients with schizophrenia and 40 patients with bipolar affective disorder.

For data Collection eligible participants were interviewed using a semi-structured socio-demographic and clinical proforma. Information regarding age, gender, marital status, education, occupation, diagnosis, duration of illness, duration of treatment, current psychotropic medications, and clinical variables was collected through patient interviews and review of medical records

Study Instruments

Patient Satisfaction Questionnaire-18 (PSQ-18):

Patient satisfaction was assessed using the Patient Satisfaction Questionnaire Short-Form (PSQ-18), Version 1.0, developed by Marshall and Hays (RAND Corporation). The instrument consists of 18 items covering seven domains: General Satisfaction, Technical Quality, Interpersonal Manner, Communication, Financial Aspects, Time Spent with Doctor, and Accessibility and Convenience. Each item is rated on a five-point Likert scale. Negatively worded items were reverse scored according to the scoring manual, with higher scores indicating greater patient satisfaction.^[11]

Medication Adherence Rating Scale (MARS):

Medication adherence was assessed using the Medication Adherence Rating Scale (MARS-10) developed by Thompson et al. The instrument contains 10 dichotomous (Yes/No) items assessing medication-taking behaviour and attitudes towards psychotropic medication. Total scores range from 0 to 10, with higher scores indicating better adherence. Based on previous studies, scores of 6–10 were classified as adherent and scores of 0–5 as poorly adherent.^[12]

Glasgow Antipsychotic Side-effect Scale (GASS):

Antipsychotic-related adverse effects were assessed using the Glasgow Antipsychotic Side-effect Scale (GASS) developed by Waddell and Taylor. The questionnaire contains 22 items evaluating common antipsychotic side effects experienced during the previous week. Total scores range from 0 to 63 and were categorized as absent/mild (0–12), moderate (13–25), or severe (≥ 26) side effects.^[13]

Statistical Analysis: Data were entered into Microsoft Excel and analysed using IBM SPSS Statistics version 29.0 (IBM Corp., Armonk, NY, USA). Continuous variables were summarised as mean $\pm$ standard deviation (SD), whereas categorical variables were expressed as frequencies and percentages.

The PSQ-18 was scored according to the standard scoring manual, with negatively worded items reverse scored. Domain scores and the overall satisfaction score were calculated by averaging the relevant item scores, with higher scores indicating greater satisfaction. MARS-10 scores were obtained by summing the 10 dichotomous items (range: 0–10), and participants were classified as adherent (6–10) or poorly adherent (0–5). GASS scores were calculated by summing responses to all 22 items (range: 0–63) and categorized as absent/mild (0–12), moderate (13–25), or severe (≥ 26) side effects.

Normality of continuous variables was assessed using the Shapiro-Wilk test. Between-group comparisons were performed using the independent samples t-test for normally distributed continuous variables and the Mann-Whitney U test for non-normally distributed data. Categorical variables were compared using the Chi-square test or Fisher's exact test, as appropriate. Associations between patient satisfaction scores and medication adherence, side-effect severity, duration of illness, duration of treatment, and other clinical variables were examined using Pearson's or Spearman's correlation coefficients, depending on data distribution.

All statistical tests were two-tailed, and a p-value of <0.05 was considered statistically significant.

RESULTS

Sociodemographic and clinical description: The mean age of patients with schizophrenia (39.52 ± 14.10 years) was comparable to that of patients with BPAD (38.90 ± 12.06 years), with no statistically significant difference between the groups ($t = 0.23$, $p = 0.820$). The age-group distribution was also similar ($\chi^2 = 0.98$, $p = 0.913$).

There were no significant differences between schizophrenia and BPAD patients with respect to sex ($\chi^2 = 0.55$, $p = 0.458$), marital status ($\chi^2 = 2.31$, $p = 0.511$), educational status ($\chi^2 = 1.36$, $p = 0.855$), occupation ($\chi^2 = 0.90$, $p = 0.983$), or place of residence ($\chi^2 = 0.13$, $p = 0.938$).

Of the 94 participants, 54 (57.4%) had schizophrenia and 40 (42.6%) had BPAD. The mean duration of illness, duration of treatment, and number of psychotropic medications were comparable between the two groups, with no statistically significant differences (all $p > 0.05$). Medication adherence patterns were also similar, although a higher proportion of patients with schizophrenia were fully adherent (38.9% vs. 22.5% for BPAD) and more patients with BPAD were non-adherent (10.0% vs. 3.7% for schizophrenia).

Patients with schizophrenia had significantly higher overall medication adherence than patients with BPAD ($p = 0.035$). At the item level, significant

differences were observed for carelessness in taking medication ($p = 0.020$) and stopping medication after feeling better ($p = 0.039$). No significant differences were found for the remaining eight MARS items.

Most participants in both groups reported either no or mild medication-related side effects, and the distribution of side-effect severity did not differ significantly between schizophrenia and BPAD ($\chi^2 = 2.49$, $p = 0.475$). Likewise, waiting time for consultation, travel distance to the hospital, availability of prescribed medications, financial difficulty in continuing treatment, and receipt of psychosocial interventions were comparable between the two groups, with no statistically significant differences observed (all $p > 0.05$).

Patients with BPAD had a slightly higher mean side-effect burden than those with schizophrenia (8.35 vs 7.22); however, the difference was not statistically significant ($p = 0.285$). Likewise, the distribution of GASS severity categories (none/mild, moderate, severe) did not differ significantly between the two groups ($\chi^2 = 2.49$, $p = 0.475$).

Overall GASS scores and severity categories were similar between the two diagnostic groups. Among individual side effects, slowed movements were reported significantly more often by patients with BPAD (20% vs 11% for schizophrenia) and results were statistically significant ($p = 0.005$), while all other side effects were comparable between the groups. [Table 3]

Among the reasons for medication non-adherence, lack of insight showed a statistically significant association with diagnosis ($\chi^2 = 11.175$, $p = 0.001$), being reported significantly more often by patients with BPAD than by those with schizophrenia. All other reasons for non-adherence were similarly distributed between the two diagnostic groups (all $p > 0.05$). [Table 3]

Pearson's correlation analysis demonstrated a moderate positive correlation between patient satisfaction (PSQ-18) and medication adherence (MARS) ($r = 0.587$, $p < 0.001$), indicating that patients reporting greater satisfaction with psychiatric services also tended to have better medication adherence. A weak but statistically significant negative correlation was observed between patient satisfaction and side-effect burden (GASS) ($r = -0.256$, $p = 0.013$), suggesting that patients experiencing more medication-related side effects tended to report lower levels of satisfaction with psychiatric care. There was also a moderate negative correlation between medication adherence and side-effect burden ($r = -0.467$, $p < 0.001$). This indicates that patients with a greater burden of medication side effects were significantly less likely to adhere to their prescribed psychotropic medications. [Table 5]

Table 1: Sociodemographic Characteristics of Patients with Schizophrenia and BPAD

Variable	Schizophrenia (n = 54)	BPAD (n = 40)	t / χ^2	p-value	Variable	Schizophrenia (n = 54)	BPAD (n = 40)	t / χ^2	p-value
Age (years), Mean $\pm$ SD	39.52 $\pm$ 14.10	38.90 $\pm$ 12.06	t = 0.23	0.820	Education, n (%)			$\chi^2 = 1.36$	0.855
Age group, n (%)			$\chi^2 = 0.98$	0.913	No formal education	3 (5.6)	2 (5.0)		
≤ 20 years	3 (5.6)	3 (7.5)			Primary (≤ 5 th grade)	15 (27.8)	13 (32.5)		
21–30 years	10 (18.5)	6 (15.0)			Secondary (≤ 10 th grade)	17 (31.5)	15 (37.5)		
31–40 years	17 (31.5)	12 (30.0)			Higher secondary	9 (16.7)	4 (10.0)		
41–50 years	13 (24.1)	12 (30.0)			Graduate	10 (18.5)	6 (15.0)		
>50 years	11 (20.4)	6 (15.0)			Occupation, n (%)			$\chi^2 = 0.90$	0.983
Sex, n (%)			$\chi^2 = 0.55$	0.458	Homemaker	20 (37.0)	13 (32.5)		
Male	23 (42.6)	21 (52.5)			Employed	12 (22.2)	9 (22.5)		
Female	31 (57.4)	19 (47.5)			Self-employed	9 (16.7)	9 (22.5)		
Marital status, n (%)			$\chi^2 = 2.31$	0.511	Unemployed	10 (18.5)	7 (17.5)		
Married	34 (63.0)	26 (65.0)			Student	2 (3.7)	1 (2.5)		
Single	15 (27.8)	8 (20.0)			Retired	1 (1.9)	1 (2.5)		
Widowed	4 (7.4)	3 (7.5)			Residence, n (%)			$\chi^2 = 0.13$	0.938
Separated/Divorced	1 (1.9)	3 (7.5)			Rural	15 (27.8)	11 (27.5)		
					Semi-urban	31 (57.4)	22 (55.0)		
					Urban	8 (14.8)	7 (17.5)		

Table 2: Clinical Characteristics of Patients with Schizophrenia and BPAD

Clinical Characteristic	Schiz(n = 54)	BPAD(n = 40)	t / χ^2	p-value	Clinical Characteristic	Schizophrenia (n = 54)	BPAD (n = 40)	t / χ^2	p-value
Diagnosis	54 (57.4%)	40 (42.6%)	—	—	Travel distance to hospital, n (%)			$\chi^2 = 0.83$	0.662
Duration of illness (years), Mean $\pm$ SD	10.34 $\pm$ 8.86	9.83 $\pm$ 6.94	t = 0.31	0.759	• <5 km	26 (48.1%)	18 (45.0%)		
Duration of treatment (years), Mean $\pm$ SD	10.35 $\pm$ 8.48	11.00 $\pm$ 7.63	t = -0.35	0.726	• 5–20 km	20 (37.0%)	18 (45.0%)		
Number of psychotropic medications, Mean $\pm$ SD	1.94 $\pm$ 0.84	1.95 $\pm$ 0.83	t = -0.03	0.976	• >20 km	8 (14.8%)	4 (10.0%)		
Medication adherence, n (%)					Availability of prescribed medications, n (%)			$\chi^2 = 0.83$	0.661
• Fully adherent	21 (38.9%)	9 (22.5%)			• Always	16 (29.6%)	11 (27.5%)		
• Partially adherent	31 (57.4%)	27 (67.5%)			• Sometimes	37 (68.5%)	29 (72.5%)		
• Non-adherent	2 (3.7%)	4 (10.0%)			• Rarely	1 (1.9%)	0 (0.0%)		
Side-effect severity, n (%)			$\chi^2 = 2.49$	0.475	Financial difficulty continuing treatment, n (%)			$\chi^2 = 0.38$	0.539
• None	36 (66.7%)	23 (57.5%)			• Yes	42 (77.8%)	34 (85.0%)		
• Mild	14 (25.9%)	14 (35.0%)			• No	12 (22.2%)	6 (15.0%)		
• Moderate	4 (7.4%)	2 (5.0%)			Psychosocial intervention received, n (%)			$\chi^2 = 7.12$	0.309
• Severe	0 (0.0%)	1 (2.5%)			• Counselling	39 (72.2%)	31 (77.5%)		
Waiting time for consultation, n (%)			$\chi^2 = 4.20$	0.122	• Other interventions†	15 (27.8%)	9 (22.5%)		

• <30 minutes	38 (70.4%)	20 (50.0%)							
• 30–60 minutes	15 (27.8%)	18 (45.0%)							
• >60 minutes	1 (1.9%)	2 (5.0%)							

Table 3: Domains/ items of PSQ 18, MASRS and GASS

Domains of PSQ-18	Schizophrenia (n=54) Mean $\pm$ SD	BPAD (n=40) Mean $\pm$ SD	p-value
General Satisfaction	5.63 $\pm$ 0.92	5.68 $\pm$ 0.73	0.790
Technical Quality	12.41 $\pm$ 0.96	12.00 $\pm$ 1.20	0.081
Interpersonal Manner	7.54 $\pm$ 0.75	7.50 $\pm$ 0.78	0.818
Communication	5.87 $\pm$ 0.85	6.03 $\pm$ 0.80	0.369
Financial Aspects	5.87 $\pm$ 0.75	6.00 $\pm$ 0.91	0.464
Time Spent with Doctor	5.30 $\pm$ 1.13	5.25 $\pm$ 1.03	0.837
Accessibility & Convenience	11.93 $\pm$ 1.64	11.93 $\pm$ 1.44	0.998
MARS Items	Schizophrenia n (%)	BPAD n (%)	p-value
Ever forget to take medication	9 (16.7)	6 (15.0)	1.000
Careless about taking medication	26 (48.1)	9 (22.5)	0.020
Stop medication when feeling better	26 (48.1)	10 (25.0)	0.039
Stop medication when feeling worse	21 (38.9)	11 (27.5)	0.351
Take medication when sick	16 (29.6)	5 (12.5)	0.085
Medication controls mind/body unnaturally	38 (70.4)	23 (57.5)	0.283
Thoughts clearer on medication	49 (90.7)	37 (92.5)	1.000
Medication prevents relapse	50 (92.6)	38 (95.0)	0.964
Feel like a "zombie"	42 (77.8)	33 (82.5)	0.761
Medication makes me tired/sluggish	30 (55.6)	20 (50.0)	0.745
GASS Symptoms	Schizophrenia n (%)	BPAD n (%)	p-value
Daytime sleepiness	39	35	0.125
Feeling drugged	22	15	0.917
Dizziness	34	33	0.066
Palpitations	16	13	0.943
Muscle stiffness	10	10	0.614
Tremor	30	24	0.826
Restlessness	15	8	0.532
Drooling	1	1	1.000
Slowed movements	11	20	0.005
Involuntary movements	3	2	1.000
Blurred vision	16	16	0.318
Dry mouth	30	24	0.826
Difficulty passing urine	5	5	0.742
Nausea/vomiting	15	12	0.989
Bedwetting	0	0	1.000
Excessive thirst/polyuria	12	8	0.883
Breast tenderness	1	2	0.553
Galactorrhoea	1	1	1.000
Sexual dysfunction	12	8	0.883
Erectile dysfunction*	3	2	1.000
Menstrual changes*	5	4	0.983
Weight gain	21	18	0.655

Table 4: Adherence and side effect

	Schizophrenia (n = 54)	BPAD (n = 40)	t-value / χ^2	p-value
MARS score (Mean $\pm$ SD)	5.69 $\pm$ 2.14	4.80 $\pm$ 1.87	2.14	0.035*
GASS (Mean $\pm$ SD)	7.22 $\pm$ 5.79	8.35 $\pm$ 4.37	-1.08	0.285
GASS Severity				
None/Mild (0–12)	50 (92.6%)	35 (87.5%)	2.49	0.475
Moderate (13–21)	4 (7.4%)	4 (10.0%)		
Severe (≥ 22)	0 (0.0%)	(2.5%)		
Reason for Non-adherence				
Forgetfulness	31 (57.4%)	28 (70.0%)	1.067	0.302
Lack of insight	22 (40.7%)	31 (77.5%)	11.175	0.001*
Side effects	22 (40.7%)	20 (50.0%)	0.466	0.495
Financial issues	19 (35.2%)	10 (25.0%)	0.691	0.406
Complexity of regimen	6 (11.1%)	4 (10.0%)	0.000	1.000
Others	4 (7.4%)	2 (5.0%)	0.002	0.964

Table 5: Correlation Between Patient Satisfaction, Medication Adherence, and Antipsychotic-Related Side Effects

Variables Compared	Pearson's r	p-value
PSQ-18 Total Score vs MARS Total Score	0.587	<0.001*
PSQ-18 Total Score vs GASS Total Score	-0.256	0.013*
MARS Total Score vs GASS Total Score	-0.467	<0.001*

DISCUSSION

The present study evaluated patient satisfaction and its association with medication adherence and treatment-related side effects among patients with schizophrenia and bipolar affective disorder (BPAD). The principal findings were that patient satisfaction was comparable between schizophrenia and BPAD across all PSQ-18 domains, medication adherence was significantly better among patients with schizophrenia, most participants experienced absent or mild antipsychotic-related side effects, and patient satisfaction showed a positive correlation with medication adherence but a negative correlation with medication side-effect burden. These findings emphasize the close relationship between patient satisfaction, treatment adherence, and medication tolerability in psychiatric care.

Patient satisfaction was uniformly high in both diagnostic groups, with no significant differences across any PSQ-18 domain. This finding is consistent with previous studies demonstrating that patient satisfaction is influenced more by the quality of healthcare delivery, therapeutic alliance, and communication than by psychiatric diagnosis itself.^[2-5] The comparable satisfaction observed in the present study may reflect regular follow-up, continuity of care, and effective clinician-patient communication in the study setting is comparable with previous Indian studies by Holikatti et al. and Jena and Gupta in terms of satisfaction among psychiatric outpatients, particularly with interpersonal manner, communication, and technical quality.^[4,16]

Medication adherence was significantly better among patients with schizophrenia than those with BPAD. Although schizophrenia has traditionally been associated with poor insight, adherence is known to depend on multiple factors including illness insight, family support, therapeutic alliance, and perceived treatment benefit rather than diagnosis alone.^{6,10} In the present study, lack of insight was significantly more common among patients with BPAD, possibly reflecting discontinuation of maintenance medication during symptom-free periods. Similar determinants of poor adherence, including forgetfulness, adverse drug effects, and financial constraints, have been reported previously.^[21]

Most participants experienced absent or mild medication-related side effects, and side-effect severity did not differ significantly between the two diagnostic groups. These findings probably reflect the predominant use of second-generation antipsychotics and regular outpatient monitoring. Waddell and Taylor demonstrated that systematic assessment of antipsychotic-related adverse effects

using the Glasgow Antipsychotic Side-effect Scale (GASS) facilitates early identification of treatment-related problems and improves clinical management.^[21]

The significant positive correlation between patient satisfaction and medication adherence observed in this study is consistent with previous evidence demonstrating that patients who perceive better communication, greater involvement in treatment decisions, and higher quality of care are more likely to adhere to prescribed treatment.^[1,2,9] Conversely, the negative correlations between GASS scores and both patient satisfaction and medication adherence indicate that greater medication-related side effects adversely influence treatment experience and continuation of therapy. Previous studies have similarly identified adverse drug effects as one of the strongest predictors of poor adherence and reduced satisfaction with psychotropic treatment.^[13,22]

The present study addresses an important gap in the literature by simultaneously evaluating patient satisfaction, medication adherence, and medication-related side effects using standardized instruments in patients with schizophrenia and BPAD. While previous studies have largely examined these outcomes independently, our findings demonstrate their close interrelationship and reinforce the importance of adopting a comprehensive patient-centred approach to psychiatric care.

The findings have important clinical implications. Routine assessment of patient satisfaction, medication adherence, and medication side effects should be incorporated into psychiatric outpatient services. Strengthening therapeutic communication, providing psychoeducation, and early identification and management of medication-related adverse effects may improve adherence, reduce relapse, and enhance long-term treatment outcomes.

The strengths of this study include the use of validated instruments (PSQ-18, MARS-10, and GASS) and the simultaneous assessment of satisfaction, adherence, and side effects in two major psychiatric disorders. However, the cross-sectional design, relatively small sample size, single-centre setting, and reliance on self-reported measures may limit the generalizability of the findings. Future multicentre longitudinal studies are needed to confirm these associations and evaluate their impact on long-term clinical outcomes.

CONCLUSION

Patients with schizophrenia and BPAD reported similarly high levels of satisfaction with psychiatric services. Better patient satisfaction was associated with improved medication adherence, whereas

greater medication-related side effects were associated with poorer satisfaction and adherence. These findings highlight the importance of integrating patient satisfaction, adherence monitoring, and systematic assessment of medication side effects into routine psychiatric practice to improve the quality of mental healthcare.

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