

Navigating the Challenges: Predictors of Non-Adherence to Psychotropic Medications Among Patients with Severe Mental Illnesses in Ethiopia

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Background: Psychotropic medications, consisting of antidepressants, mood stabilizers, antipsychotics, and anxiolytics, are the pillars of managing mental illnesses. Since there is impairment in judgment, attitude, and stability in patients with severe mental conditions, they are vulnerable to non-adherence, which compromises treatment outcome. Nevertheless, a lack of studies investigating medication non-adherence and its predictors in severe mental illnesses patients in Ethiopia has been noticed. The purpose of this study was to evaluate the extent of non-adherence to psychotropic medication and its predictors in patients with severe mental illnesses in Ethiopia.

Patients and Methods: A cross-sectional study was carried out among severely ill mental patients attending outpatient psychiatry department at Debre Markos Comprehensive Specialized Hospital. Stratified sampling strategy was used to enroll patients with a variety of mental diseases. The determinants of non-adherence were identified using logistic regression analysis. Statistical significance was determined by a p-value of <0.05 and a 95% confidence range.

Results: The prevalence of non-adherence to psychotropic medication was 50.9%. Missing regular follow-up [AOR (95% CI): 2.36 (1.24–4.47)], current substance use [AOR (95% CI): 2.48 (1.44–4.27)], negative attitude towards treatment [AOR (95% CI): 3.87 (2.26–6.62)], experience of side effects [AOR (95% CI): 4.84 (2.74–8.54)], medication use for more than 3 years [AOR (95% CI): 7.16 (3.93–13.06)], and no family support [AOR (95% CI): 2.07 (1.19–3.58)] were predictors of psychotropic medication non-adherence.

Conclusion: This study generalized that most of the patients were non-adherent to their medications. Missing regular follow-up, current substance use, negative attitude towards treatment, experience of side effects, Medication use for more than 3 years and absence of family support were found to influence medication adherence of the patients. In order to correct patients', caregivers', and societal misconceptions regarding the significance of treatment adherence, we recommend the need to implement psycho-educational programs.

Keywords: severe mental illness, psychotropic medication, non-adherence, Ethiopia

Introduction

Severe mental illnesses (SMIs) have been defined by a chronic and occasionally variable disorders along with consequential impairment of daily activities.^{1,2} Psychotropic medications, consisting of psycho stimulants, antidepressants, mood stabilizers, antipsychotics, and anxiolytics, are the pillars in the management of these SMIs.^{3,4} The effective management of people with SMIs requires a complete approach that helps to control their symptoms.⁵ According to the World Health Organization medication adherence is the degree to which a person follows the generally recognized recommendations of a healthcare professional by following a diet, taking prescription medication, and/or making lifestyle modifications.^{6,7} Since there is impairment in judgment, attitude, and stability in patients with SMIs, they are vulnerable

to non-adherence.^{8–11} Previous studies have also shown that disruptions in reward processing and motivation-related brain circuits may lead to reduced motivation to adhere to medication regimens; therefore, impairments in executive functions, such as working memory and cognitive control, as well as neural substrate alterations, emotional dysregulation and altered stress response systems may hinder the ability of patients with SMIs to remember and follow prescribed medication schedules.^{12,13} Lack of adherence to treatment compromises effectiveness and it has detrimental effects on patients, their families, and society as a whole.¹⁴ In addition worsening symptoms, frequently causing increased chances of relapse, poor prognosis, high costs, and higher hospitalization resulting in a significant cost burden on the healthcare.^{15,16} Moreover, non-adherence is a complex set of behaviors with both unintentional and intentional non-adherences that could affect psychiatric patients. Fortunately, non-adherence to medications is one of the primary preventable causes of relapses and treatment failures among psychiatric illnesses; for this reason, when assessing patients with serious mental health conditions, it is important to look into the potential causes of non-adherence.^{17–19} Previous studies on medication non-adherence and predicts, usually address a single diagnosis group. To the best of our knowledge, there are insufficient studies that compared patients with severe mental illness from various diagnosis groups in terms of medication non-adherence in Ethiopia. Hence, the purpose of this study is to explore the magnitude of non-adherence to psychotropic medication and its predictors among patients with severe mental illnesses in Ethiopia.

Methods and Materials

Study Setting

The study was done at Debre Markos Comprehensive Specialized Hospital (DMCSH) located in the northwestern part of Ethiopia, and in East Gojjam Zone, it serves as the sole comprehensive hospital. A distinct unit inside the hospital delivers mixed ambulatory and hospitalized psychiatric care.¹⁶

Study Period and Design

An institution-based, cross-sectional, study was conducted at DMCSH psychiatric outpatient department from September 25, 2022, to January 25, 2023.

Source and Study Population

The source population consisted of the patients who visited the DMCSH psychiatric outpatient unit for follow-up treatment, while the study population comprises all severely mentally ill patients who visited for follow-up care throughout the data collection period.

Eligibility Criteria

Patients who came to the psychiatric outpatient clinic for follow-up and were above the age of 18, patients with a diagnosis of severe mental illnesses, as evidenced by their medical records, and patients who had been calm and on psychotropic medications for at least 3 months were enrolled in the study. Patients with serious physical or health problems, as well as those who were unable to express themselves due to their disease, were not included in the study.

Study Variables

Non-adherence to psychotropic medication was a dependent variable. Whereas independent variables included socio-demographic characteristics such as age, sex, residence, religion, educational background, and occupation, clinical- and medication-related variables including presence of comorbid conditions, diagnosis, duration of illness, number of inpatient admission, frequency and type of medications prescribed, lifestyle and socio-behavioral-related characteristics including attitude towards treatment, regular follow-up, current substance use, stigma, family support, and social support.

Operational Definitions

Severe mental illnesses: is defined as mental illness with the diagnosis of major depressive disorder, schizophrenia, Bipolar disorders, and anxiety.¹

Psychotropic medication: is defined as medication consisting of antidepressants, anxiolytics, antipsychotics, psycho stimulants, and/or mood stabilizers.³

Sample Size Determination

A single population proportion formula was used to estimate the sample size: considering the assumptions of a 95% confidence interval, the prevalence of non-adherence in a previous study at Felege Hiwot Hospital was 55.2% (0.552).²⁰ The desired margin of error of 5% is calculated as follows:

$$n = z^2 \frac{p(1-p)}{d^2}$$

$$n = \frac{(1.96)^2 (0.552) (0.448)}{(0.05)^2} = 380$$

Lastly, we add a 10% non-response rate which made our final sample size to be 418.

Sampling Technique

The stratified sampling method was applied. Based on the four diagnoses, schizophrenia, generalized anxiety disorder, bipolar disorder, and major depressive disorder, proportional allocation was carried out. Based on the number of patients under each stratum, the samples to be studied were determined by the proportional allocation method. Likewise, the number of patients from each diagnosis under the stratum was determined by proportional allocation. Finally, the study participants from each stratum were selected by systematic random sampling method. The sampling interval was determined by dividing the total population who had follow-up during the data collection period in psychiatry outpatient department divided by the sample size by using the formula $k=N/n$ (where K is sampling frame, N is total population units and n is sample size). Then, the data collectors collected data from every fourth interval of patients. The first patient was selected by lottery method.

Data Collection Procedure

Data were collected using a pre-tested data-abstracting checklist that was designed by the authors after reviewing different literature and modified to correspond to local circumstances.^{1,20–23} The checklist included four sections that contained patient socio-demographic characteristics, medication and clinical-related variables, lifestyle and socio-behavioral-related variables, and self-reported adherence to medication characteristics. The patient's sociodemographic characteristics were obtained by asking them while the number, type, and frequency of psychotropic medications, clinical parameters such as diagnosis, presence of comorbid conditions taken from the patient's medical chart. Three psychiatry nurses participated in the data collection process. The principal and co-investigators provided supervision during the data collection period. Family support and social support were assessed by evaluating the presence of encouraging patients to take medications properly, treatment follow-up, reassurance or listening to the patient talk about his/ her illness, and financial by their family and or society.^{24,25} Attending regular follow-up appointments which are arranged by the hospital at set intervals were also assessed.²⁶ Patient attitude towards medication were assessed by using drug attitude inventory scale which contains 10 true/false items. A correct response got a score of +1, whereas an incorrect response got a score of -1. The total of the pluses and minuses determines the drug attitude inventory score. A positive overall score denotes a positive attitude toward the course of treatment, and a negative total score, a negative attitude.²⁷ Finally, medication non-adherence was assessed using the four-item version of the Morisky Medication Adherence Rating Scale.²⁸ The Morisky scale rates a patient's carelessness and forgetfulness about taking medications, discontinuing medication when feeling better, and stopping medication when they are feel worse. Answers to questions got one point if they were "yes" and got zero points if they were "no". Scores were added up to make a final score between 0 and 4. Patients must score 1 or below to be adherent, and a score of 2 or more is considered non-adherence.^{28–31}

Data Quality Assurance

The questionnaire was initially created by the investigator in English, and then Amharic and English-speaking staff translated it both forward and backward to maintain uniformity. Based on the translation, the instrument needed to be modified. The study's principal investigator provided supervisors and data collectors with training on the study's goals, methodology, and ethical considerations. For the purpose of evaluating the questionnaire's clarification and sociocultural appropriateness, a pretest was conducted at the comprehensive and specialized hospital of the University of Gondar among 21 patients with severe mental illness (5% of the overall sample size). Additionally, the investigator evaluated and verified the collected data for completeness and consistency, while the supervisors provided on-site supervision during the whole data collection period.

Data Processing and Analysis

The data were examined for accuracy and consistency, coded, and entered into Epi-data 4.6 before being exported to SPSS 26 for additional analysis. Percentages and frequencies were used in descriptive statistics for categorical variables. Bi-variable and multivariable logistic regressions were fitted to examine the impact of independent variables on medication non-adherence, with the Hosmer and Lemeshow test for goodness of fit being performed to assess the model fit of each variable employed in the logistic regression model. In order to account for confounder effects, variables with a p-value <0.2 in the bivariate analysis were moved to multiple logistic regression models. In the final model, variables with a p-value <0.05 were considered statistically associated. The adjusted odds ratio (AOR) was calculated and interpreted using a 95% confidence interval (CI). To further identify and prevent redundant factors that could have an impact on our estimate, the variance inflation factor (VIF) was used to analyze the multicollinearity of the explanatory variables. The VIF fell within a reasonable range (1–5).³² The study's findings were then presented utilizing texts, tables, and figures depending on the findings.

Ethical Considerations

Ethical approval was received from the Research and Ethical Review Committee of DebreMarkos University College of Health Sciences, pharmacy department on September 13, 2022 (SN: DOP/204/01/22) and an official letter was submitted to Debre Markos Comprehensive Specialized Hospital, and respective official permission was obtained. Furthermore: The study was carried out in line with the Helsinki Declaration. All participants provided written informed consent; every technique was used in compliance with the rules and regulations. To safeguard the confidentiality of the responses, no personal identifier has been requested for on the questionnaire. Patients identified as non-adherent were counseled to take their medication as directed, and members of the family were given health information.

Result

Sociodemographic Characteristics of Study Participants

The current study recruited 407 participants in total, with a response rate of 97.4%. The majority of the respondents (40.0%) were within the range of 25–34 years; with a mean age of 34.7 (± 11.2) years. Males made up over half of the participants [234 (57.5%)], and 223 (54.8%) participants were from urban areas, whereas most of the participant's marital status was single [294 (72.2%)]. The majority of participants were followers of the Orthodox religion 237 (58.2%). Regarding education, more than a quarter (26.5%) of the participants had a higher education level, while more than one-third of them had no job (38.1%). In addition, 65.1% of the participants made less than 2500 Ethiopian Birr (ETB) per month (Table 1).

Clinical- and Treatment-Related Characteristics of Study Participants

Regarding specific diagnoses, almost half of the participants (48.2%) had a diagnosis of schizophrenia. Additionally, the majority of participants (51.8%) had illnesses that lasted less than 3 years, while 36.1% of the patients had comorbid diseases. Most of the patients (48.2%) were prescribed with antipsychotics. Moreover, 42.8% of the patients had been taking their medications for a maximum of 6 months and 74% of the participants reported were missing their routine

Table 1 Frequency of Sociodemographic Characteristics in Patients with Severe Mental Illness at Outpatient Psychiatric Department of DMCSH, Amhara, Ethiopia

Variable	Frequency (n)	Percent (%)
Age (years)		
18–24	79	19.4
25–34	163	40.0
35–44	89	21.9
≥45	76	18.7
Sex		
Male	234	57.5
Female	173	42.5
Residence		
Rural	184	45.2
Urban	223	54.8
Religion		
Orthodox	237	58.2
Muslim	118	29.0
Protestant	52	12.8
Marital status		
Single	294	72.2
Married	95	23.3
Divorced	11	2.7
Widowed	7	1.7
Educational status		
Illiterate	97	23.8
Literate with no formal education	86	21.1
Primary education	68	16.7
Secondary education	48	11.8
Higher education	108	26.5
Occupation		
Housewife	65	16.0
Farmer	31	7.6
Merchant	26	6.4
Governmental employee	107	26.3
Jobless	155	38.1
Others*	23	5.7
Monthly income in Ethiopian birr		
<2500	265	65.1
≥2500	142	34.9

Note: *Student, Daily laborer, Non-governmental organization employee, Pensioner.

follow-up. Regarding attitude towards medication, 39.8% of the participants had negative attitude. Most of participants had no family support (62.2%) and social support ((65.4%), while stigma was faced by 23.6% of the participants (Table 2).

Concerning medication-related side effects, 40.3% of the total participants experienced one or more side effects, and 29.8% of the patients reported gastro-intestinal complaints (Figure 1).

Prevalence of Non-Adherence to Psychotropic Medications and Reasons for Non-Adherence

The prevalence of non-adherence to psychotropic medications was 50.9%. Common justifications for not being adherent mentioned by the respondents were the belief that medication was not helping in 51.6% of the patients and the shift to religion or traditional alternatives in 41.5% of the patients (Table 3).

Table 2 Frequency of Clinical- and Treatment-Related Characteristics of Patients with Mental Illness at Outpatient Psychiatric Department of DMCSH, Amhara, Ethiopia

Variable	Frequency (n)	Percent (%)
Diagnosis		
Schizophrenia	196	48.2
Bipolar disorder	75	18.4
Major depressive disorder	106	26.0
Generalized anxiety disorder	30	7.4
Presence of comorbid illness		
No	260	63.9
Yes	147	36.1
Duration of mental illness (years)		
<3	208	51.1
≥3	199	48.9
Number of hospital admissions		
None	118	29.0
1	142	34.9
2	147	36.1
Type of medications prescribed		
Antipsychotic*	196	48.2
Mood stabilizer**	35	8.6
Antidepressant***	135	33.2
Antipsychotic + Mood stabilizer	29	7.1
Antipsychotic+ Anti-depressant	12	2.9
Medication regimen		
Mono-therapy	239	58.7
Poly-therapy	168	41.3
Frequency of medication administration		
Once per day	218	53.6
Twice per day	189	46.4
Duration on medication		
<6 months	174	42.8
6 months–2 years	67	16.5
≥2 years	166	40.8
Side effect		
No	243	59.7
Yes	164	40.3
Attend regular follow-up		
No	301	74.0
Yes	106	26.0
Current substance use		
No	255	62.7
Yes	152	37.3
Attitude towards treatment		
Positive	245	60.2
Negative	162	39.8
Family support		
No	253	62.2
Yes	154	37.8
Social support		
No	266	65.4
Yes	141	34.6

(Continued)

Table 2 (Continued).

Variable	Frequency (n)	Percent (%)
Stigma		
No	311	76.4
Yes	96	23.6

Notes: *Haloperidol, chlorpromazine, risperidone, clozapine, olanzapine, thioridazine; **Carbamazepine, lithium, sodium valproate; ***Amitriptyline, fluoxetine, imipramine, sertraline.

Predictors for Non-Adherence to Psychotropic Medications

Multiple logistic regression analysis findings showed that experience of side effects, long duration of medication taking, lack of family support or encouragement, current substance use, attitude towards treatment, and irregular follow-up were predictors psychotropic medication non-adherence. Accordingly, patients who missed their regular follow-up had about twice the risk of non-adherence to psychotropic medications than those who had regular follow-up [AOR (95% CI): 2.36 (1.24–4.47)]. Patients who used substance had two times the likelihood of taking their medications as prescribed than those who did not [AOR (95% CI): 2.48 (1.44–4.27)]. Patients with a negative attitude regarding their treatment appeared 3.8 times more likely to exhibit medication non-adherence than those with a positive attitude [AOR (95% CI); 3.87 (2.26–6.62)]. Patients who had experienced side effect were five times the risk of non-adherence [AOR (95% CI); 4.84 (2.74–8.54)]. Moreover, patients who had been taking their medication for more than 3 years were prone to become non-adherent [AOR (95% CI); 7.16 (3.93–13.06)], whereas patients who had no family support or encouragement had a two-fold higher risk of being non-adherent compared to those with family support [AOR (95% CI); 2.07 (1.19–3.58)] (Table 4).

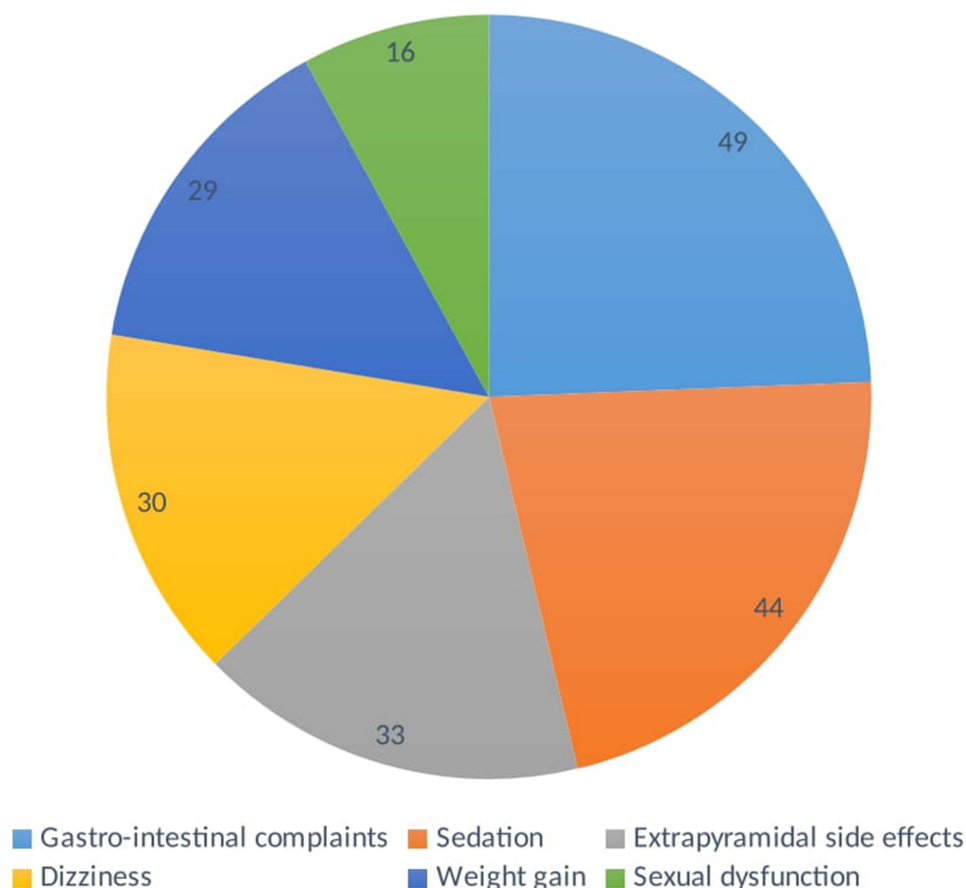


Figure 1 Frequency of perceived side effects among patients with severe mental illness at outpatient. Psychiatric department of DMCSH, Amhara, Ethiopia, 2023.

Table 3 Frequency of Reasons for Non-Adherence to Medication Among Patients with Severe Mental Illness at Outpatient Psychiatric Department of DMCSH, Amhara, Ethiopia

Variable	Frequency (n)	Percent (%)
Medicine is not helping	107	51.6
Shift to religion/traditional alternatives	86	41.5
Medication side effect	73	35.2
Feel better	41	19.8
To try without medication	23	11.1
Forgetfulness	13	6.3
Could not afford	12	5.8
Afraid to get dependent	9	4.3
Unavailability	7	3.4
Too embarrassed to take medication	5	2.4

Table 4 Univariate and Multivariate Analysis to Identify Predictors for Non-Adherence to Psychotropic Medications Among Patients with Mental Illness at Outpatient Psychiatric Department of DMCSH, Amhara, Ethiopia

Variables	Adherent	Non-Adherent	Bivariable Analysis			Multivariable Analysis		
			P	COR	CI	P	AOR	CI
Age (years)								
18–24	38	41		1				
25–34	79	84	0.95	0.98	0.57–1.68			
35–44	44	45	0.86	0.94	0.51–1.73			
≥45	39	37	0.68	0.87	0.46–1.65			
Sex								
Male	118	116	0.54	0.88	0.59–1.31			
Female	82	91		1				
Residence								
Rural	80	104	0.03	1.51	1.02–2.24	0.56	0.80	0.38–1.67
Urban	120	103		1				
Religion								
Orthodox	112	125	0.72	1.11	0.61–2.03			
Muslim	62	56	0.76	0.93	0.47–1.73			
Protestant	26	26		1				
Marital status								
Single	134	160	0.54	1.59	0.35–7.23			
Married	57	38	0.88	0.88	0.18–4.19			
Divorced	5	6	0.63	1.60	0.23–10.80			
Widowed	4	3		1				
Educational status								
Illiterate	42	55	0.13	1.51	0.87–2.63	0.28	1.65	0.65–4.18
Literate with no formal education	41	45	0.40	1.27	0.72–2.24	0.487	1.38	0.56–3.38
Primary education	33	35	0.50	1.23	0.67–2.25	0.60	1.25	0.52–3.02
Secondary education	26	22	0.95	0.98	0.49–1.94	0.36	0.65	0.25–1.65
Higher education	58	50		1				
Occupation								
Housewife	30	35	0.62	1.27	0.49–3.29	0.51	1.54	0.42–5.66
Farmer	10	21	0.14	2.29	0.75–6.96	0.60	1.49	0.32–6.85
Merchant	8	18	0.13	2.45	0.76–7.88	0.07	4.20	0.85–20.72

(Continued)

Table 4 (Continued).

Variables	Adherent	Non-Adherent	Bivariable Analysis			Multivariable Analysis		
			P	COR	CI	P	AOR	CI
Governmental employee	53	54	0.81	1.11	0.45–2.73	0.87	0.90	0.26–3.07
Jobless	87	68	0.72	0.85	0.35–2.05	0.48	0.65	0.19–2.15
Others	12	11		1				
Monthly income (Birr)								
<2500	136	129	0.23	0.77	0.51–1.17	0.79	1.08	0.58–2.02
≥2500	64	78		1				
Diagnosis								
Schizophrenia	94	102	0.37	1.41	0.65–3.07			
Bipolar disorder	35	40	0.35	1.49	0.63–3.50			
Major depressive disorder	54	52	0.58	1.25	0.55–2.84			
Generalized anxiety disorder	17	13		1				
Presence of comorbid illness								
No	143	145		1				
Yes	57	62	0.74	1.03	0.70–1.64			
Duration of illness (years)								
<3	102	106		1				
≥3	98	101	0.96	0.99	0.67–1.46			
Number of admissions								
None	90	28		1				
1	52	90	0.00	5.56	3.22–9.58	0.10	1.72	0.88–3.34
≥2	58	89	0.00	4.93	2.88–8.44	0.11	1.64	0.88–3.05
Type of medications prescribed								
Antipsychotic	94	102	0.33	0.54	0.15–1.86	0.68	0.69	0.12–4.02
Mood stabilizer	17	18	0.36	0.52	0.13–2.08	0.38	0.42	0.06–2.96
Anti-depressant	70	65	0.22	0.46	0.13–1.61	0.61	0.63	0.10–3.72
Anti-Psychotic+mood stabilizer	15	14	0.28	0.46	0.11–1.90	0.63	0.61	0.08–4.46
Antipsychotic+antidepressant	4	8		1				
Medication regimen								
Mono-therapy	157	82		1				
Poly -therapy	43	125	0.00	5.56	3.59–8.62	0.10	1.58	0.91–2.74
Frequency of medication administration								
Once per day	115	103		1				
Twice per day	85	104	0.11	1.36	0.92–2.02			
Duration on treatment								
<6 months	123	51		1				
6 months–2 years	36	31	0.01	2.07	1.16–3.71	0.06	1.97	0.94–4.09
≥2 years	41	125	0.00	7.35	4.54–11.89	<0.001*	7.16	3.93–13.06
Side effect								
No	150	93		1				
Yes	50	114	0.00	3.67	2.41–5.60	<0.001*	4.84	2.74–8.54
Attend regular follow-up								
No	142	159	0.18	1.35	0.86–2.11	<0.001*	2.36	1.24–4.47
Yes	58	48		1				
Current substance use								
No	148	107		1				
Yes	52	100	0.00	2.66	1.75–4.03	<0.001*	2.48	1.44–4.27
Attitude towards treatment								
Positive	150	95		1				
Negative	50	112	0.00	3.53	2.32–5.38	<0.001*	3.87	2.26–6.62

(Continued)

Table 4 (Continued).

Variables	Adherent	Non-Adherent	Bivariable Analysis			Multivariable Analysis		
			P	COR	CI	P	AOR	CI
Family support								
No	109	144	0.00	1.90	1.27–2.86	<0.001*	2.07	1.19–3.58
Yes	91	63		1				
Social support								
No	99	167	0.00	4.25	2.73–6.63	0.07	1.68	0.94–3.00
Yes	101	40		1				
Stigma								
No	147	164		1				
Yes	53	43	0.17	0.72	0.45–1.15	0.84	0.94	0.51–1.71

Note: *Statistically significant.

Abbreviations: AOR, adjusted odds ratio; COR, crude odds ratio.

Discussion

The current study assessed the extent of non-adherence to psychotropic medication and its predictors in patients with severe mental illnesses. Based on the outcomes of the current study, there was an overall 50.9% non-adherence rate, which was consistent with rates of non-adherence worldwide, which were between 30% and 65%.^{33,34} Our result was less than study outcomes done in Jimma, Mekele, Egypt, Nigeria, India, Pakistan, and Bulgaria^{1,22,35–40} which was quite encouraging, but these differences might be because of the variation in socio-demography of the study population and, variation in tools used for assessing adherence. Likewise, differences in sample size, eligibility requirements, and methodological discrepancies could explain the disparity. As an example, a convenience sample method was employed in the Egypt study with a smaller sample size was taken. In studies done in Pakistan and Bulgaria, 128 and 226 psychiatric patients were enrolled, respectively, suggesting an explanation for the disparity that was noticed. However, a higher non-adherence was observed compared to studies conducted in the USA and Germany.^{41,42} This variance may be brought on by variations in healthcare environments or the degree of training in drug adherence that healthcare professionals have; hence, their care is crucial for drug compliance. The most frequent reasons reported for non-adherence were that medication was not helping and shift to religion or traditional options which was similar to the finding in Jimma and Pakistan.^{22,38} This might be due to inadequate communication between medical professionals and patients regarding their illness status, the delay in treatment response, the advantages of medications, and potential side effects, whereas feeling well and forgetting to take medication have been pointed out as causes in Canada and India.^{37,43} Medication-related side effects were also mentioned by patients as the reason for non-adherence. Notably, typical side effects experienced by patients were extrapyramidal complications, sedation, and gastrointestinal complaints.

Non-adherence to psychiatric treatment was significantly correlated with a variety of variables. The duration of medication taking, side effects experienced, missing regular follow-up, substance use, negative attitude towards treatment, and lack of family support or encouragement were predictors. In this study, participants undergoing inconsistent follow-up were more likely to have been non-adherent, which was similar to research from Jimma and Nigeria.^{22,44} Patients who attend regular follow-ups can be more informed about the advantages of drug compliance.^{45,46} Patients who had negative attitude towards treatment were at increased likelihood of non-adherence to medication. This outcome is also consistent with research done in Nigeria, the USA, and Germany.^{41,42,47} The presence of knowledge and positive attitude about the disease and towards its treatment, which is a key factor in drug adherence, may be one explanation for this. Due to the fact that adherence is positively correlated with health seeking, the relevance of any form of treatment for a patient is determined by their attitude.^{24,48}

It was additionally determined that the absence of involvement from family members predicted failure to adhere to psychotropic medications. Research from the United States and Nigeria agreed up this finding.^{49–51} Patients with serious mental diseases quality of life suffered greatly by those who have not family support.⁵² This could be as a result of the

family encouraging or serving as an alert for those who have mental illness to take their medication as prescribed. Furthermore, patients who used substances did not take their medications as prescribed, which is consistent with other studies.^{53–56} One explanation is that substance abuse can negatively affect a person's internal environment, leading to greater mental disorders and unpleasant withdrawal effects.⁵⁷ In addition to the immediate physical effects, substance use has a number of long-term social and therapeutic effects. These include a higher risk of social marginalization and homelessness, which can result in non-adherence to medicine.^{58,59} Moreover, patients who were on treatment for longer duration were more prone to be non-adherent, which is comparable with findings from studies conducted in Addis Ababa and Nigeria.^{1,56} Boredom, low motivation, and hopelessness due to a perceived lack of efficacy, might be present when patients take medications for an extended period of time. Concerning occurrence of side effects patients who experience side effect were more likely being non-adherent the possible explanation might be due to the fact that patients who encounter side effects tend to be less prone to be inspired to comply with such treatments and have a more unfavorable attitude toward medication.^{60,61} Moreover, prior studies show that increased medical costs as well as making SMIs to be managed and controlled in a less than optimal manner as potential consequences of non-adherence to psychotropic medication in Ethiopia.^{20,22,38,62} Based on the findings of the current study, we would like to recommend health care professionals and policymakers in Ethiopia to address the factors contributing to non-adherence in the country by using psycho-educational programs and to focus on the behavioral theory of adherence based on the operant conditioning such as reinforcement of action that leads to adherence.

Limitation

Self-report methods were used to measure the lack of medication adherence in this study, which has the tendency to understate drug non-adherence and poses concerns about the patient's memory of events. Additionally, the degree of failure to adhere has not been taken into account in the study. This study's cross-sectional design makes it impossible to pinpoint the precise cause.

Strength

Trained professionals collected the data, relevant language unit experts translated the questions, and when the outcome had been determined, non-adherent patients were provided with health education.

Conclusion

In accordance with the study's findings, patients with severe mental illnesses had an elevated level of non-adherence. Therefore, we advocate psycho-educational initiatives that target patients' and society's beliefs with regard to the illness and its management. Furthermore, healthcare professionals should emphasize the need for substance abuse assessment for patients and offer quick encouragement for those who are in search of rehabilitation programs, which could boost adherence to medications.

Data Sharing Statement

There are all of the necessary data in the document. The corresponding author can provide you with additional data that has been used to support the results of the research on enquiry.

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Disclosure

The authors report no conflicts of interest in this work.

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