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Medication Adherence and its Associated Factors among Patients with Mental Illness Follow up at Dilla University Referral Hospital, Dilla, South Ethiopia

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Abstract

Background: Around 450 million people currently suffer from such conditions, placing mental disorders among the leading causes of ill-health and disability globally. The burden of mental disorders continues to grow with significant impacts on health and major social, human rights, and economic consequences in all countries of the world**.** Adherence to treatment has a big influence on achieving clinical remission.

Methods: Institution based cross-sectional study was conducted from January to June 2019 at psychiatric OPD unit of Dilla University Referral Hospital. Data were entered into SPSS version 20.0 for windows. It was checked for its completeness, cleaned, processed and analyzed accordingly. A 95% CI and *P*-value of 0.05 was considered statically significant. Multivariate analysis was used to identify factors associated with medication adherence among patients with mental illness at DURH.

Results: The adherence level in this study was 34.21%. Of 266 study participants, 194 (72.93%) received social support from their families. 21.43% of respondents use at least one type of social drug. The educational status of the patient, drug side effects and use of social drugs affect the adherence level.

Conclusion: The adherence to medications for mental illness was unacceptably in the present study, which needs urgent and coordinated intervention. Illiteracy, drug side effect, and social drug use were independent determinants of non-adherence.

Keywords: Adherence; Mental illness; Dilla University Referral Hospital

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Introduction

Mental health problems are a growing public health concern. Worldwide, one in four people in the will be affected by mental, or neurological disorders at some point in their lives and around 450 million people currently suffer from such conditions, placing mental disorders among the leading causes of ill-health and disability globally. Depressive disorders are already the fourth leading cause of the global disease burden. They are expected to rank second by 2020, behind ischemic heart disease, but ahead of all other diseases [1,2].

People with a diagnosed mental health condition have been shown to be at an increased risk of suicide attempt of which about 90% of suicide attempts have been found to be associated with a psychiatric disorder. Mental disorders impose an enormous burden on society; accounting for almost one in three years lived with disability globally. 80% of the people likely to experience an episode of a mental disorder in their lifetime come from low- and middle-income countries. In addition to their health impact, mental disorders cause a significant economic burden due to lose of economic output and the link between mental disorders and costly, potentially fatal conditions including cancer, cardiovascular disease, diabetes, HIV, and obesity [3-5].

The financial gap in mental health expenditure is one of the

biggest concerns of health professionals and researchers. The number of individuals with mental ill-health is expected to rise significantly in the near future. Given the relationship between mental and physical health, urgent action is needed to overcome barriers to treatment and prevention [1].

The links between mental disorders and major non-communicable disease (NCDs) are well established. People with mental disorders die 20 years younger than the general population [6].

Adherence to treatment has a big influence on achieving clinical remission. Consequences of non-remission include poor prognosis, psychiatric and general medical complications, treatment resistance, and death from medical comorbidities and suicide. Prevention of relapse following remission is critical to the well-being and optimal functioning of patients with schizophrenia. The key to optimizing patients' outcomes is to ensure a patient's long-term continuation of medication [7,8].

Recent research has highlighted that nonadherence is a global challenge for psychiatry and has linked nonadherence to poorer outcomes, including hospital admissions, suicide, and mortality. Optimizing medication regimens can reduce nonadherence; however, often a complex interplay of factors affects individuals' motivation and ability to follow their prescriptions. Psychiatrists can enable patients to develop an accurate model of their illness and treatment and facilitate adherence. However, nonadherence is often a hidden issue within consultations. Novel interventions using new technologies and tailoring techniques may have the potential to reduce nonadherence [9].

The failure by patients to take medication as prescribed is a phenomenon that is well known to clinicians in all medical specialties. Among patients with schizophrenia, adherence issues can severely limit the clinical improvement that is achievable with even the best available treatments. There is, however, no evidence that the situation has improved over the last 30 years, and, despite the introduction of new medications with improved tolerability profiles, poor adherence remains a problem [10].

Treatment non-adherence can lead to several onerous social consequences including homelessness, people with mental illness being incarcerated in prisons and random and mass violence. The reason for this problem is that the symptoms of mental illness particularly psychotic symptoms can impel people to harm themselves [11].

If the problem of poor adherence is not addressed, 30-40% of patients with depression will discontinue their medication early, regardless of perceived benefits or side-effects and poor adherence to drug therapy is one of the primary causes of treatment failure in epileptic patients [12].

Identifying the predictors of adherence is the first step to designing suitable intervention strategies aimed at preventing or reducing the negative consequences of non-adherence. Interventions targeted specifically to problems of non-adherence were more likely to be effective than were more broadly based treatment interventions. The aim of the present study were to determine the level of adherence and factors of non-adherence among patients with mental illness which could suggest means for improving adherence in these people.

Research Methodology

Study area and period

Institution-based cross-sectional study was conducted from January to June 2019 at psychiatric OPD unit of Dilla University Referral Hospital.

DURH is found in Dilla town which is found 360 Km south of Addis Ababa. Dilla university referral hospital is one of a teaching hospital in the Southern Nations and Nationalities Peoples Region (SNNPR). The average number of outpatient attendants is approximately 200 per day and 15-20 per day at psychiatric OPD unit.

Sample size and data collection process

All consecuative patients visiting the psychiatric clinic during the study period were included. Data was collected using a structured interviewer based-questionniere by registered pharmacists.

Data processing and analysis

Data was entered into SPSS version 20.0 for windows. It was checked for its completeness, cleaned, processed and analyzed accordingly. A 95% CI and *P*-value of 0.05 was considered statically significant. Multivariate analysis was used to identify factors associated with medication adherence among patients with mental illness at DURH.

Ethical considerations

Ethical clearance was obtained from the Institutional Review Board (IRB) of the College of Medical and Health Sciences, Dilla University.

Results

Socio economic and demographic characteristics

266 patients were participated in the study. Among them, 145 (54.51%) respondents were male and 121(45.49%) were female. A majority of 164 (61.65%) respondents were married. 39(14.67%) patients had a monthly income of less than 500 Ethiopian Birr **(Table 1).**

Characteristics of participants

This study found that the mean perceived social support score from family to be 194 (72.93%) was greater than the mean perceived social support score from other people outside the families of the patient, which was 72 (27.07%). A fifth (21.43%) of respondents uses atleast one type of social drugs. Of 266 study participants, more than half (56.77%) were on pharmacological management for 1-3 years whereas nearly a quarter (19.55%) of study participants were on pharmacologic treatment for less than a year **(Table 2).**

Table 1 Socio-economic and demographic characteristics at psychiatric OPD, Dilla University Referral Hospital, Dilla Town, Gedio Zone, Southern Ethiopia, 2019 GC.

Socio-economic and demographic characteristics of study participants		No. of participants	Percent (%)
Sex	Male	145	54.51
	Female	121	45.49
Age	14-18 years	12	4.51
	18-24 years	87	32.71
	25-34 years	122	45.86
	35-44 years	34	12.78
	45-55 years	6	2.26
	>55 years	5	1.88
Marital status	Unmarried	74	27.82
	Married	164	61.65
	Divorced	25	9.4
	Widowed	3	1.13
Education level	Illiterate	55	20.68
	Grade 1-6	83	31.2
	Grade 7-12	95	35.71
	Diploma and above	33	12.41
Income monthly	<500 birr	39	14.67
	500-1000 birr	98	36.84
	1001-1499 birr	46	17.29
	1500-1999 birr	26	9.77
	2000-2499 birr	14	5.26
	>2500 birr	43	16.17
Current occupation	Government Employee	19	7.14
	Unemployed	37	13.91
	Private Employee	100	37.59
	Student	23	8.65
	Merchant	47	17.67
	Other Specify	40	15.04

Table 2 Numbers of participants at psychiatric OPD, Dilla University Referral hospital, Dilla town, Gedio Zone, Southern Ethiopia, 2019 G.C.

Characteristics of participants		No. of participants	Percent (%)
Active substance use	Yes	57	21.43
	No	209	78.57
Supporter	My Family	194	72.93
	Other	72	27.07
Medication adherence	Adherence to medication	91	34.21
	Non Adherence to medication	175	65.79
Duration of treatments	<1 year	52	19.55
	1-3 years	151	56.77
	4-5 years	29	10.90
	>5 years	34	12.78

Factors independently associated with medication adherence

Educational status of the patient, adverse effect of the drug and social drug use were factors that affected patients' medication adherence.

Patients using any kind of social drugs were 2.99 times more likely to experience drug nonadherence compared with their counterparts with p value 0.002. An adverse drug effect was associated with drug nonadherence in this study. Patients experiencing atleast one type of drug adverse effect were 4.20 times at risk of experiencig nonadherence. This other variable having significant association with drug nonadherence was educational status of the patient. Having educational level of atleast highschool decreases drug nonadherence by 73% and drug adherence was acceptably good among educated patients.

Discussion

In the current study, nearly one third (34.21%) of patients were adherent to their medications. This was less than the findings in Mekelle Northern Ethiopia (73.5%), Jimma University Specialized Hospital (57.5), Adama (56%), Amanuel Mental Specialized Hospital (48.8-59.0%) and China (80%) [13-19]. This might be due to a lack of access to these medications in Dilla University Referral Hospital sustainably.

But it was higher than the findings in Canada (27%) [20]. The difference might be due to the point in time at which the adherence was measured. In our case, the adherence was measured regardless of time whereas the Canadians followed it over time and reported the stable value.

This study showed that the most common reason for non-adherence was forgetfulness (33.5%) followed by a lack of appropriate regimen on time (14.6%). This could be justified as a cognitive impairment of patients. This was in line with the studies done in Adama and Jimma [14,15]. Adherence, must therefore, be given due attention when planning treatment strategies with antipsychotic medications in countries like Ethiopia where the educational status of the population is less and scarcity of resources are evident.

This study revealed that the educational level of the patient, social drug use, drug side effect and access to drugs were independent determinants of adherence.

In this study, social drug use and non-adherence were significantly ($P < 0.002$) associated which was in line with studies conducted in Jimma (P=0.05) and Adama (P=0.001), Ethiopia and justifiable with the fact that the use of social drugs may have an effect on the cognitive abilities of patients and also, impose financial burden, which in turn may affect adherence [14,15].

In this study drug adverse effect was significantly associated with medication non-adherence (P=0.01) which was in line with a study done in Jimma, Adama, Malawi and Tanzania where side effects of antipsychotic medication was found to be significantly associated with antipsychotic medication non-adherence [14,15,21,22].

Thirdly educational status of the patient was statistically significant for adherence in this study. Compared to illiterate patients, patients with high school and above level of educational level had a risk of non-adherence decreased by 73% (P=0.003). This was in line with a study in Malawi and India in which participants with poor insight were less likely to adhere to antipsychotic medication [23].

In the current study, other characteristics (age, income, duration of treatment, distance from the health facility and duration of illness) did not differ significantly between the groups.

Conclusion

The adherence to medications for mental illness was low compared with the generally recommended cut-off point (>80%) for good adherence in this study requiring the effort of different stakeholders. Illiteracy, drug side effect, and social drug use were independent determinants of non-adherence. Hence, comprehensive intervention strategies should be designed and implemented to address factors associated with medication non-adherence among patients with mental illness.

Competing Interest

Authors declare that there is no conflict of interest.

Author's Contribution

Adugna Mogasa conceived and designed the study and collected data in the field, performed analysis, interpretation of data, and draft the manuscript. Miheret Tesfu and Nigatu Addisu involved in the design, analysis, and interpretation of data and the critical review of the manuscript. All authors approved and read the final manuscript

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