

Original Research Article

Non-adherence to medications among patients with mental disorders attending tertiary care in Oman

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ABSTRACT

Background: The primary aim of this study was to quantify the degree of non-adherence to medications among patients with mental health disorders attending a psychiatry clinic at a tertiary care hospital in Muscat, Oman.

Methods: All patients attending the psychiatry clinic during the study period were invited to participate in this cross-sectional study. Demographic data and factors related to medication adherence were gathered from the participants. The level of adherence to medication was measured using the Medication Adherence Rating Scale (MARS).

Results: A total of 251 patients were included in this study. The average MARS score was 5.7, indicating an overall poor level of compliance. Having an educational level of secondary school, a diagnosis of schizophrenia, having had a mental health condition for a longer time, previous history of admission to a psychiatry unit, lack of insight and poor therapeutic alliance were found to be significantly associated with low level of adherence to psychiatric medications.

Conclusions: Non-adherence to medications is common among patients with mental health disorders. In order to mitigate the impact of medication non-adherence in a psychiatric setting, appropriate interventions are recommended to address and manage the factors related to poor medication adherence.

Keywords: Non-Adherence, Compliance, Antidepressants, Psychiatric medications, Mental health disorders, Oman

INTRODUCTION

One of the fundamentals of treating any disease is for the patient to take the medication as prescribed according to dose and time period, in order to achieve maximum benefits.¹ Non-adherence to medications is common among patients with mental health disorders, with patients mostly only being partially compliant.² Several negative consequences have been linked to non-adherence to medications, including higher treatment costs, higher risk of relapse, increased frequency of admission and, sometimes, increased risk of violence.³⁻⁶ The likelihood of hospitalization is almost doubled for

those who are non-adherent compared to those who adhere to their treatment.⁷ Bener et al found that 43% of patients with mental health disorders are non-adherent to medications.² Among psychiatry patients, non-adherence is more common in patients with schizophrenia than depressed patients.² One study found that only 12% of patients with schizophrenia fully completed a one-year treatment course.⁷

There are several factors which have been proposed to influence adherence to medications, related to the patient, the medications themselves and the healthcare provider.⁶ Examples of patient-related factors are: lack of insight,

substance use disorder, stigma toward psychiatric disorders and presence of personality disorders. Psychotropic medications can cause negative side effects to patients, such as extrapyramidal side effects and anticholinergic side effects, which are uncomfortable side effects, potentially leading the patients to stop taking their medication. Lack of therapeutic alliance is the main healthcare provider factor leading to non-adherence to treatment.⁸⁻¹² Owing to the difficulties of measuring compliance, studies regarding non-adherence among patients with mental health disorders are scarce.⁸

This study aims to quantify the degree of non-adherence to medications among patients with mental health disorders attending a psychiatry clinic and inpatient wards from January 2020 until June 2020. This study also aimed to identify the most important factors associated with non-adherence to medications.

METHODS

This was a cross-sectional study carried out in Almasarrah Hospital in Muscat, Oman. Almasarrah Hospital is a tertiary care hospital that receives referrals from all around Oman. The study was approved by the research committee at the Ministry of Health, Oman and complied with the Declaration of Helsinki standards for medical research on human subjects.

Sampling

All patients who attended the clinic or were admitted to the psychiatry wards were invited to consent to participate in the study. Only patients who declined to participate in the study were excluded. A sample size of 300 patients was calculated using a sample size calculating website, with a confidence interval of 5%, confidence level of 95% and population size of 4 million.

Measurements

Demographic characteristics, including age, sex, marital status and educational level were gathered from all participants. Moreover, factors associated with poor adherence to medications were collected. These factors were identified using literature review for studies conducted in a similar setting among a population that share common features with the Omani population. These factors include insight towards the illness, satisfaction regarding the treating psychiatrist, information given about the medication and history of drug abuse. Questions to assess the above factors were designed and integrated into the data collection sheet.

Non-adherence to medication was measured using the Medication Adherence Rating Scale (MARS), developed by Thompson et al. The MARS is a 10-item self-reporting questionnaire that was found to be a valid and reliable measure of adherence to psychoactive medications.¹³ The MARS covers three key aspects: behaviour towards

medication adherence (items 1-4), attitude toward taking medication (items 5-8) and negative side effects (items 9 and 10).¹⁴ Each question has a yes or no response. For questions 1-6 and 9-10, a “no” response is suggestive of compliance and given a score of 1. For items 7-8, a “yes” response is suggestive of compliance and given a score of 1. The total possible score is between 0 and 10 and a higher score means greater adherence to medications. A score of 6 and below is generally considered as an indication of poor level of compliance.¹⁵ The MARS was translated and back translated to Arabic language by expert translators.

Data analysis

For data analysis, the Statistical package for the social sciences (SPSS), version 22.0 (IBM Corp., Armonk, NY) was used. For descriptive purposes, categorized variables were described as percentages with confidence intervals (CI). Continuous variables were presented as means with standard deviations or medians with interquartile ranges. To assess the relationships between the variables, a univariate analysis Chi-square test, t-test and analysis of variance (ANOVA) were used.

RESULTS

A total of 151 patients participated in this study (58.9% male). The average age of the participants was 36.5 years (range: 19-59 years). Around half of the participants were married (47.7%) and unemployed (47.0%). The most common diagnosis was schizophrenia (45.0%), followed by bipolar affective disorder (16.6%) and depression (15.2%). Table 1 summarizes the demographic data of all participants as well as frequency of specific diagnoses.

The average length of time since diagnosis of a psychiatric disorder for all participants was 8.7 years. Around half of the participants had a history of admission to a psychiatric unit during the course of their illness. Treatment with oral tablets was used by 73.5% of the participants, whereas 26.5% were on both tablets and long-acting injections. As well as their psychiatric diagnosis, 23% had a chronic medical disorder. The rate of participants using alcohol or illicit drugs was 23.8%.

The majority of the participants (83.4%) did not know the name of their medications and 34.1% had missed at least one follow up appointment in the last year. Some of the participants (31.1%) reported that they were not convinced that they had a mental health disorder, and 21.2% believed that they did not need any treatment. On the other hand, 42.4% indicated that they had not received enough information about their medications and 15.9% are not satisfied with the quality of care provided by their treating psychiatrists.

The average MARS score of among all participants was 5.7, indicating an overall poor level of compliance to treatment. Consequently, around 59% of participants

reported poor compliance to treatment. Behaviour towards medication adherence, attitudes toward taking medication and negative side effects subscale scores from the MARS were 1.9, 2.33 and 1.42, respectively. Table 2 summarizes the mean MARS scores and its subscales.

Table 1: Demographic data of all participants and frequency of their diagnoses (N=151).

Demographic variable	n (%)
Age (years)	
18-25	27 (17.9)
26-45	90 (59.6)
46-60	34 (22.5)
Sex	
Female	62 (41.1)
Male	89 (58.9)
Marital status	
Single	64 (42.4)
Married	72 (47.7)
Others	15 (9.9)
Diagnosis	
Schizophrenia	68 (45.0)
Bipolar affective disorder	25 (16.6)
Depression	23 (15.2)
Anxiety	16 (10.6)
Others	19 (12.6)

Table 2: Mean MARS scores and its subscales for all participants (N=151).

	Mean (±SD)
Medication Adherence Rating Scale (MARS)	5.7 (2.4)
Behaviour towards medication adherence	1.9 (1.3)
Attitude towards taking medication	2.33 (1.2)
Negative side-effects and attitudes to psychotropic medications	1.42 (0.7)

The Pearson Chi-square test was used to study the association between the degrees of compliance and other variables. The association was considered statistically significant when the $p < 0.05$.

Patients in the 26-45 age group were less compliant to treatment compared to the other patients, though this was not statistically significant. Moreover, there was no statistical difference between degree of compliance to treatment among participants and their sex or job status.

Compared to married patients, single patients were significantly less compliant to treatment ($p < 0.05$). Moreover, patients with a secondary degree level education were less compliant to treatment than patients

with other educational levels. There was a strong statistical association between diagnosis and the length of time since diagnosis, and the degree of compliance to treatment in the other hand. Patients with a diagnosis of schizophrenia were the least likely to comply to treatment as compared to patients with other diagnoses. Additionally, the longer the time since diagnosis, the less compliant the patients were to treatment ($p < 0.05$).

Patients with a history of admission to a psychiatric unit were less compliant to treatment than patients without a history of hospitalization ($p < 0.05$). Also, patients who reported to have missed their follow up appointments in the last year were found to be less compliant to treatment than patients with regular attendance ($p < 0.05$). There was no statistical difference between the degree of compliance and participant's knowledge of the name of their medication, presence of co-morbid medical disorders or the type of medication (tablets and/or injections).

There was a strong positive correlation between the participants' conviction of having mental illness and the belief of the need for treatment with the degree of compliance. Participants who were not convinced that they had an illness or did not believe in the need for treatment were less compliant compared to those that did ($p < 0.05$). Furthermore, those who reported being satisfied with the quality of care provided by their treating psychiatrists were more compliant to treatment than unsatisfied participants ($p < 0.05$). There was no association between degree of compliance and using alcohol or illicit drugs. Participants who reported receiving enough information about their treatment were no different regarding the degree of compliance compared to those who reported receiving inadequate information prior to the start of treatment.

DISCUSSION

This cross-sectional study is among the first studies to investigate the rate of compliance to psychotropic medications among patients with health mental disorders. The study was carried out in a tertiary care hospital that receives referrals from around Oman. Therefore, more than half of the sample were patients with schizophrenia and bipolar disorder, representative of the usual sample of patients to attend a psychiatry clinic at a tertiary care hospital. Many of these patients were referred initially for admission, and then follow up, at Sultan Qaboos University Hospital. Hence, half of the participants had a history of at least one admission during the course of their illness.

The study showed a poor level of compliance among the sample of patients with mental health disorders. This finding is consistent with many previous studies. A recent meta-analysis by Semahegn et al showed that the prevalence of medication non-adherence among patients with mental health disorders can be up to 50%.¹⁶ Similarly, Mukattash et al found that, out of a sample of

253 psychiatric outpatients, 64.2% of them were classified as non-adherent to medications.¹⁷ Another study from Africa showed that more than two-thirds of the participants had moderate to poor compliance with their prescribed treatment during the past year.¹⁸

Upon further exploration of the three MARS factors, the lowest score of medication non-adherence was found to be linked to negative-side effects and attitudes to psychotropic medication. This indicates that the main reasons for medication non-adherence among participants was presence of side effects. This finding is consistent with other studies that concluded that presence of side effects is associated with poor adherence to medications.¹⁶

In accordance to findings from other studies, this study showed significant association between the level of adherence to medication and educational level, diagnosis and length of time since first diagnosed with a mental health disorder.^{16,19,20} Many studies have found no relationship between marital status and the degree of adherence to medication, when, conversely, this study showed significant association between low level of adherence and being unmarried.¹⁶⁻¹⁷ Continuous support from a spouse to take the prescribed treatment may help with medication adherence.

In this study, patients with previous admissions to a psychiatric unit were less adherent to medications than patients without a history of hospitalization. This could be explained by the effects of poor compliance to treatment leading to hospital admission. Many studies showed that a poor level of adherence to medications are associated with a higher rate of admission. One cross-sectional study by San et al. included 1446 patients admitted to a psychiatric hospital, and found that non-adherence to treatment was listed as the main cause for admission in 58.6% of patients.²¹

Patients who lack insight towards their mental health disorder and do not believe in the need for medications to treat their symptoms are less compliant. In Oman, these patients may look for other explanations and treatments for their conditions, thus comply poorly to the physician recommended treatment. Lack of insight is a predictor to medication non-adherence, especially in patients with schizophrenia.²²

This study showed better medication adherence among patients who reported being satisfied with the quality of care provided by their treating psychiatrist. Therapeutic alliance and a trusting relationship between the therapist and the patients were shown to be a protective factor against medication non-adherence.²³

There are many other factors associated with poor adherence to medication among patients with mental health disorders, which were not covered in this study. Examples of these factors are: cost of treatment,

complexity of the treatment regimen, inflexibility in the appointment system and lack of social support.¹⁶ These factors along with the factors stated earlier interplay and result in poor adherence to medications and results in a negative impact on the patients' overall condition.

Further studies are required to investigate the findings from this study. Future studies exploring specific side effects of psychotropic medications that render mental health patients non-adherent to treatment will be highly useful. Also studies to examine the psych-social factors that influence adherence to medication can help in predicting non-adherence and thus mitigate the consequences.

Limitations

The sample size of this study is relatively small owing to the short study period and the emergence of the COVID-19 pandemic, when telemedicine services were activated and many patients did not need to attend to the out-patient department. Another limitation is the setting of the study, utilizing a tertiary care hospital and including patients with severe mental disorders. Therefore, the sample may not represent the patients attending a primary care setting or patients in the community. Future studies are needed to involve participants on a larger scale and from different care settings.

CONCLUSION

Non-adherence to medications is common among patients with mental health disorders. Factors such as educational level, diagnosis, duration of diagnosis, presence of side effects and therapeutic relationship can significantly influence the patients' attitude toward their prescribed treatment. Future studies are needed to explore these factors and explore them to encourage adherence to medications and avoid the impact of non-adherence to medications.

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REFERENCES

1. Chapman SCE, Horne R. Medication nonadherence and psychiatry. *Curr Opin Psychiatry*. 2013;26(5):446-52.
2. Bener A, Dafeeah EE, Salem MO. A study of reasons of non-compliance of psychiatric treatment and patients' attitudes towards illness and treatment in Qatar. *Issues Ment Health Nurs*. 2013;34(4):273-80.
3. Kruse W. Patient compliance with drug treatment — new perspectives on an old problem. *Clin Investig*. 1992;70(2):163-6.

4. Gills LS, Trollp D, Jakoet A, Holden T. Non-compliance with psychotropic medication. 1987;72:5.
5. Olfson M, Marcus SC, Wilk J, West JC. Awareness of Illness and Nonadherence to Antipsychotic Medications Among Persons With Schizophrenia. *Psychiatr Serv*. 2006;57(2):205-11.
6. Breen R, Thornhill JT. Noncompliance with Medication for Psychiatric Disorders. *CNS Drugs*. 1998;9(6):457-71.
7. Law MR, Soumerai SB, Ross-Degnan D, Adams AS. A Longitudinal Study of Medication Nonadherence and Hospitalization Risk in Schizophrenia. *J Clin Psychiatry*. 2008;69(1):47-53.
8. A systematic narrative review of the literature: adherence to pharmacological and nonpharmacological treatments among adolescents with mental disorders - Timlin - 2014 - *Journal of Clinical Nursing - Wiley Online Library*. Available at: <https://onlinelibrary.wiley.com/doi/abs/10.1111/jocn.12589>. Accessed on 20 April 2021.
9. Fenton WS, Blyler CR, Heinssen RK. Determinants of Medication Compliance in Schizophrenia: Empirical and Clinical Findings. *Schizophr Bull*. 1997;23(4):637-51.
10. Lacro JP, Dunn LB, Dolder CR, Leckband SG, Jeste DV. Prevalence of and risk factors for medication nonadherence in patients with schizophrenia: A comprehensive review of recent literature. *J Clin Psychiatry*. 2002;63(10):892-909.
11. Valenstein M, Blow FC, Copeland LA, McCarthy JF, Zeber JE, Gillon L, et al. Poor Antipsychotic Adherence Among Patients With Schizophrenia: Medication and Patient Factors. *Schizophr Bull*. 2004;30(2):255-64.
12. Poirier M-F, Canceil O, Baylé F, Millet B, Bourdel M-C, Moatti C, et al. Prevalence of smoking in psychiatric patients. *Prog Neuropsychopharmacol Biol Psychiatry*. 2002;26(3):529-37.
13. Thompson K, Kulkarni J, Sergejew AA. Reliability and validity of a new Medication Adherence Rating Scale (MARS) for the psychoses. *Schizophr Res*. 2000;42(3):241-7.
14. Owie GO, Olotu SO, James BO, Owie GO, Olotu SO, James BO. Reliability and validity of the Medication Adherence Rating Scale in a cohort of patients with schizophrenia from Nigeria. *Trends Psychiatry Psychother*. 2018;40(2):85-92.
15. Abrar S, Shoka A, Arain N, Widuch-Mert C. Landing on the MARS!!!. *British Journal of Medical Practitioners*. 2012;5(3).
16. Semahegn A, Torpey K, Manu A, Assefa N, Tesfaye G, Ankomah A. Psychotropic medication non-adherence and its associated factors among patients with major psychiatric disorders: a systematic review and meta-analysis. *Systematic reviews*. 2020;9(1):1-8.
17. Mukattash TL, Alzoubi KH, Abu El-Rub E, Jarab AS, Al-Azzam SI, Khdour M, Shara M et al. Prevalence of non-adherence among psychiatric patients in Jordan, a cross sectional study. *International Journal of Pharmacy Practice*. 2016;24(3):217-21.
18. Mahaye S, Nkosi S, Mahomed FN, Ntuli L, Pramlal J, Setlhabana O et al. Medication adherence of psychiatric patients in an outpatient setting. *African Journal of pharmacy and pharmacology*. 2012;6(9):608-12.
19. Kumuyi OE, Akpunne BC. Psychosocial Determinants of Medication Adherence Among Psychiatric Outpatients. 2018;11:14-8.
20. Novick D, Haro JM, Suarez D, Perez V, Dittmann RW, Haddad PM. Predictors and clinical consequences of non-adherence with antipsychotic medication in the outpatient treatment of schizophrenia. *Psychiatry research*. 2010;176(2-3):109-13.
21. San L, Bernardo M, Gomez A. Socio-demographic, clinical and treatment characteristics of relapsing schizophrenic patients. *Nord J Psychiatry*. 2013;67:22-29.
22. Staring AB, van der Gaag M, Duivenvoorden HJ, Weiden PJ, Mulder CL. Why do patients with schizophrenia who have poor insight still take antipsychotics? Memory deficits as moderators between adherence belief and behavior. *Journal of Psychiatric Practice*. 2011;17(5):320-9.
23. Thompson L, McCabe R. The effect of clinician-patient alliance and communication on treatment adherence in mental health care: a systematic review. *BMC Psychiatry*. 2012;12(1):87.

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