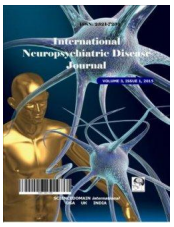

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Psychotropic Medication Non-adherence among Psychiatric Patients at King Abdulaziz Hospital-Makkah

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Author's contribution

The sole author designed, analyzed and interpreted and prepared the manuscript.

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ABSTRACT

Background: Non-adherence to psychotropic medication among psychiatric patients is one among the huge medical problem in Saudi Arabia. Most of the psychiatric patients do not adhere to the instruction of the physician in such a way that they reappear in the hospital after medication and getting well.
Aim: To assess psychotropic medication non-adherence among psychiatric patients at King Abdulaziz hospital in Makkah city, Saudi Arabia.
Methods: A cross-sectional study conducted on 342 psychiatric patients with age group between 18-65 years, and is visiting the outpatient clinics and subjected to psychotropic medication at the department of psychiatry at King Abdulaziz Hospital. Data were collected from the psychiatric patients using the designed questionnaire. The Medication Adherence Rating Scale (MARS) were used to assess the level of adherence to medication.
Results: A total of 342 of patients participated in the study. One hundred ninety-one, 191(55.8%), were females. About half (54.4%) of the patients were married, (53.5%) of them were between 30-39 years old. A significant relation between the educational level of participants and adherence to medication ($P < 0.05$) were recorded. Patients in this study reported that the impacts of non-adherence to the medication are a relapse of the symptoms (25%), cannot sleep (15.2%), bad mood (10.2%), and agitation (4.7%).

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Conclusion: Non-adherence remains a significant challenge for patients with psychiatric disorders, physicians, healthcare systems which resulting in poorer outcomes for patients. Though the predictors of non-adherence among psychiatric patients are multifactorial, the strongest determinants in this study were the increased number of medication, the presence of side effect, and forgetting of taking medication. According to this we recommend adhering to monotherapy except when the use of multiple drugs becomes compelling and takes into consideration the side effects of medications.

Keywords: Psychotropic medication; non-adherence; psychiatric patients.

1. INTRODUCTION

Treatment of psychiatric disorders is in increasing concerns. Globally one in four people will be affected by mental disorders at some point in their life. The current statistics depicts that approximately 450 million people worldwide suffer from these conditions thereby placing mental health disorders among the leading causes of illness (WHO, 2001). Although psychotropic medication for specific psychological interventions has been demonstrated to be beneficial, this has also been noted to be associated with relapse due to non-adherence to the medication regime [1]. Patients with psychiatric illness typically have big difficulty following a medication regimen, but they also have the greatest potential from drug adherence. It has been noted that half of the patients prescribes with antidepressants will not be taking the drug three months after the initiation of the therapy [2]. However, patients with acute conditions have typically higher adherence rates as compared to those with chronic conditions. This tends to increase the time for a patient continuing drug therapy. Medication non-adherence is a major barrier to favorable health outcomes in psychiatric disorders such as schizophrenia, bipolar disorder, and depression [3]. The definition of non-adherence includes failure to enter a treatment program, premature termination of therapy and incomplete implementation of instructions (including prescriptions) [4]. Failure to adhere to medication can have a major impact on the course of illness and treatment outcomes, including increasing the risk of relapse and re-hospitalization. Understanding psychiatrists' perception of the causes and consequences of non-adherence is crucial to addressing adherence problems effectively [5]. Taking the prescribed dose of medication, at the correct time, and for the full course of treatment is fundamental to patients realizing the full potential benefits of medications. However, between 30 - 50% of medicines for long-term conditions are not taken as prescribed, resulting in costs for individual patients and healthcare systems (WHO, 2003). Ensuring patients continue with their medication over the long term is a considerable challenge in psychiatry. There is a range of often overlapping patient, treatment, environment, and physician-related factors that contribute to partial or non-adherence to medication. These factors include patients' lack of insight, attitudes toward and previous experiences of medication, comorbidity and symptom severity, the level of social and family support, and the strength of the therapeutic alliance between patient and physician [6,7]. Non-adherence to medication can have a major impact on the course of illness and treatment outcomes and is associated with an increased risk of relapse, the persistence of symptoms, functional impairments, and increased hospitalization [8,9]. Risk factors for non-adherence including limited insight; a negative attitude or subjective response towards medication; shorter illness duration; comorbid substance abuse; poorer therapeutic alliance; living alone; more self-reported side effects; and limited family support [10,11,12]. Understanding determinants of antipsychotic medication adherence are critical as non-adherence plays a significant role in psychotic relapse and each relapse contributes to accrued social toxicity and disability. Thus, a negative medication attitude is critical variables that have repeatedly been shown to be risk factors for non-adherence [13]. Non-adherence to medication among psychiatric patients considered as one of the main medical problems in Saudi Arabia. Most of the psychiatric patients do not adhere to the physician instruction and to the prescribed medication, which sometimes causes the disease to be severe and chronic and prevents patients from getting the full benefits of their treatment. Understanding and reducing non-adherence is, therefore, a key challenge to the quality of care for patients with psychiatric disorders. This paper aims to assess psychotropic medication non-adherence and highlights findings regarding the prevalence of non-adherence among psychiatric at King Abdulaziz hospital in Makkah city.

2. METHODOLOGY

2.1 Study Area

This study was conducted at King Abdulaziz hospital in Makkah city of Saudi Arabia, specifically at the department of psychiatry. King Abdul-Aziz hospital was chosen since it has the main and the largest psychiatry department in the city, therefore, there is a greater possibility of obtaining reliable and relevant data for this study.

2.2 Research Design

This study is cross-sectional design employing both qualitative and quantitative data conducted on psychiatric patients who are visiting the outpatient clinics and subjected to psychotropic medication at the department of psychiatry in King Abdulaziz hospital. The estimated daily population of patients visiting the psychiatry outpatient clinics are 150 patients. With four days working clinics per week, the total monthly population is around 2,400 patients.

2.3 Sample Size

The sample was calculated from the monthly population of 2,400 patients at 95% Confidence Interval by this formula

$$n= N/1+Ne^2$$

Where: n= sample size, N= Total population = 2,400, e= precision error = 5%=0.05

Therefore $n=2,400/1+2,400x (0.05)^2$

Therefore, the sample from this population will be 342 patients.

2.4 Sampling Techniques

The sampling techniques were non-probability sampling. Therefore, it was purposive sampling for psychiatric patients with age group between 18-65 years, Mental illness on psychotropic medication, Capacity to give informed consent and in continuous therapy at least for three months before the study. Those who are in serious medical condition or with mental retardation will not be considered.

2.5 Data Collection Methods

The study used primary data that were collected from the psychiatric patients using the designed questionnaire which was administered verbally if necessary. In our study, 6% of patients who could not read or write, answered orally and the questionnaire filled by the help of healthcare or caregivers. Also, some other primary information about the patient and general medication in terms of effects of non-adherence to medication to the psychiatric patients were also taken from doctors, nurses and other specialists so as to complement the study.

2.6 Questionnaire

Questionnaires were used for the psychiatric patients at King Abdulaziz hospital. A questionnaire containing open and closed questions were used and the researcher's role was interpreting the questionnaire for the respondents to make sure data collected reflects the truth to their understanding.

2.7 Data Analysis Methods

Data were analyzed basing on the objectives of the study. The statistical package for social science (SPSS) shall be used for the analysis. The data analysis method used linear regression analysis by descriptive data were obtained and chi-square test used to test for significance of variables.

2.8 Measurement of Adherence

The Medication Adherence Rating Scale (MARS) were used to assess the level of medication adherence for the patients in this study. The scale includes 10 items and examines adherence behavior and attitude toward medication during the past week with relatively simple scoring. Scoring less than 6 is considered as non-adherence to medication.

The study will be limited to the following criteria: age group between 18-65 years, mental illness on psychotropic medication, capacity to give informed consent and continuous therapy at least for three months before the study

Patients who are with serious medical condition and mental retardation are excluded from the study

3. RESULTS

3.1 Sociodemographic Characteristics and Background of the Respondents

A total of 342 of patients participated in the study. One hundred ninety-one, 191(55.8%), were

females. About half, (54.4%), of the patients, were married. About half (53.5%) of them were between 30-39 years old. The majorities, (78.1%), of the participants, were from urban regions. Only twenty-two (6.4%) of the total participants could not read and write, (25.1%) were unemployed, while (33.6%) have bachelor's degree. About (41.5%), of the patients, were living with low household monthly income, results presented in Table 1.

Table 1. Socio-demographic characteristics of the respondents (N=342)

Variable	N (%)
Sex	
Male	151 (46.9)
Female	191 (55.8)
Age	
18-29	45 (13.2)
30-39	183 (53.5)
40-49	70 (20.5)
50-59	43 (12.5)
60-65	0 (0.00)
Education	
Illiterate	22 (6.40)
Pre-collage	104 (30.4)
Diploma	83 (24.3)
degree	115 (33.6)
Master	13 (3.80)
PhD	5 (1.50)
Marital status	
Single	77 (22.5)
Married	186 (54.4)
Divorced	55 (16.1)
Widow	24 (7.00)
Employment	
Employed	146 (42.7)
Unemployed	86 (25.1)
Self-employed	65 (19.0)
Other	21 (6.10)
Monthly income	
Less than 3000 SR	2 (0.60)
3000-5000	142 (41.5)
5000-10000	42 (12.3)
10000-15000	156 (45.6)
Home location	
Rural	57 (16.7)
Urban	267 (78.1)
Not answered	18 (5.30)

3.2 Diseases and Medication-related Issues

About 37.7% and 30.1% of the patients have their disease for about 11 to 30 and 31 to 60 months, respectively. Even that, our results showed that the patients follow their continuous therapy through their illness, results of illness duration appeared to be the same of the period of continuous therapy. About half of the patients have a duration of illness for about nine to twelve weeks from the last visiting. Most of them (43.5%) and (49.4%) taking tablets from 1 to 4 tables and 3 to 4 tablets per day respectively, for about (96.5%) of them, the physician follow up their medication, and 90.9% taking their medication by themselves, Table 2.

Table 2. Disease and medication background of the patients (N=342)

Variable	N (%)
Duration of Illness	
Less than10 months	53 (15.5)
11-30 months	130 (37.7)
31-60 months	103 (30.1)
61-90 months	47 (13.7)
More than 90 months	9 (2.60)
Period of continuous therapy	
1-10 months	53 (15.5)
11-30 months	130 (37.7)
31-60 months	103 (30.1)
61-90 months	47 (13.7)
More than 90 months	9 (2.60)
Duration of illness from the last visiting	
1-4 weeks	8 (2.4)
5-8 weeks	64 (18.7)
9-12 weeks	157 (45.9)
13-16 weeks	77 (22.5)
17-20 weeks	26 (7.60)
More than 20 weeks	10 (2.90)
Number of tables taking per day	
1-2	149 (43.5)
3-4	169 (49.4)
5-6	14 (1.50)
7-8	1 (0.30)
9-10	2 (0.60)
Don't answer	7 (2.00)
How do administer medication	
By self	311 (90.9)
Relatives	82 (8.20)
Physician follow-up medication	
Yes	330 (96.5)
No	12 (3.50)

3.3 Patient's Adherence to Medication

Medication Adherence Rating Scale (MARS) was used to assess the level of medication adherence for the participants. The scale includes 10 items

and examines adherence behavior and attitude toward medication during the past week with relatively simple scoring. Table 3, shows the answers of the participants. Most of the participants (71.6%) said that they forgot to take their medication and 58.1% careless about the time of taking medication. While (59.1%) of them complained that medication makes them feeling tired and sluggish. Scoring less than 6 is considered as non-adherence to medication, Table 4. The results showed that 74% of our sample not adherence to medication. (Fig. 1)

Results of this study showed a significant relationship between the educational level of participants and adherence to medication ($P < 0.05$). Patients with Ph.D. were more adherent to medication (80%) followed by patients with master degree (53.8%). In addition, a significant relation was found between diagnosis and adherent; patients diagnosed with the psychotic disorder (12.3%) were the least adherent while whom with an anxiety disorder were the most adherent (37.4%) in this study.

No significant existed between sex and ages with related to medication adherence. Either, there is no significant between duration of illness, a period of continuous therapy, and medication adherence ($P > 0.05$), Table 5.

Table 3. Medication Adherence Rating Scale (MARS) distribution among participants (N=342)

MARS scale	N (%)	
	Yes	No
Do you ever forget to take your medication?	245 (71.6)	94 (27.5)
Are you careless about the time of taking your medication?	201 (58.1)	141 (41.2)
When you feel better, do you sometimes stop taking your medication?	148 (43.3)	194 (56.7)
I take my medication only when am sick?	94 (27.5)	248 (72.5)
I stop medication when I feel worse	154 (45.1)	188 (55.0)
Is it unnatural for my mind and body to be controlled by medication?	102 (29.0)	240 (70.2)
Are my thoughts clearer on medication?	157 (45.9)	185 (54.1)
By staying on medication, I cannot prevent getting sick?	96 (28.1)	243 (71.1)
I feel wired like a “Zombie” on medication	139 (40.7)	203 (59.4)
Medication makes me feel tired and sluggish	202 (59.1)	140 (40.9)

Table 4. Adherence of patients to medication according to MARS scale

MARS	N	%
Non-adherence	253	74
Adherence	89	26

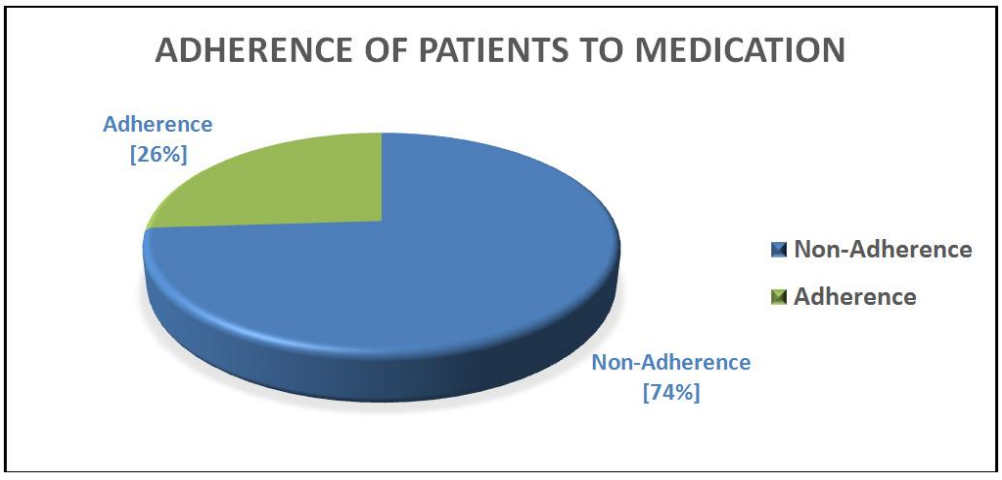

Fig. 1. Adherence of patients to medication according to MARS scale

Table 5. Cross-tabulation about the relation between adherence and sociodemographic and background of the patients (N=342)

Variable	Adherence	Non-adherence	P value
Sex			0.247
Male	35 (23.5)	114 (76.5)	
Female	52 (27.4)	138 (72.6)	
Age			0.354
18-29	7 (15.6)	38 (84.4)	
30-39	50 (27.5)	132 (72.5)	
40-49	20 (29.0)	49 (71.0)	
50-59	10 (23.3)	33 (76.6)	
60-65			
Education			0.001*
Illiterate	3 (15.0)	17 (85.0)	
Pre-college	17 (16.3)	87 (83.7)	
Diploma	19 (23.2)	63 (76.8)	
degree	37 (32.3)	78 (67.8)	
Master	7 (53.8)	6 (46.2)	
PhD	4 (80.0)	1 (20.0)	
Diagnosis			0.007*
Depressive disorder	28 (23.3)	92 (76.7)	
psychotic disorder	9 (12.3)	64 (87.7)	
Bipolar disorder	15 (30.0)	35 (70.0)	
Anxiety disorder	34 (37.4)	57 (62.6)	
Experience co-morbidity			
Yes	47 (27.6)	123 (72.4)	0.238
No	40 (23.7)	129 (76.3)	
Duration of illness			0.926
Less than 10 months	15 (28.8)	37 (71.2)	
11-30 months	31 (24.4)	97 (57.6)	
31-60 months	25 (24.8)	79 (75.2)	
61-90 months	14 (29.8)	33 (70.2)	
More than 90 months	2 (22.2)	7 (77.8)	
Period of continuous therapy			0.909
1-10 months	15 (28.8)	37 (71.2)	
11-30 months	29 (24.0)	92 (76.0)	
31-60 months	23 (24.0)	73 (76.0)	
61-90 months	14 (29.8)	33 (70.2)	
More than 90 months	2 (22.2)	7 (77.8)	
Duration of illness from the last visiting			0.380
1-4 weeks	1 (16.7)	5 (83.3)	
5-8 weeks	18 (28.2)	46 (71.9)	
9-12 weeks	42 (26.8)	115 (73.2)	
13-16 weeks	15 (19.5)	62 (80.5)	
17-20 weeks	6 (23.1)	20 (76.9)	
More than 20 weeks	5 (50.0)	5 (50.0)	
How do administer medication			0.592
By self	81 (26..0)	230 (74.0)	
Relatives	6 (21.4)	22 (78.6)	
Physician follow up medication			0.866
Yes	85 (25.8)	245 (74.2)	
No	2 (28.6)	5 (71.4)	

** Significant different: P < 0.05*

Percentage and frequency of the ways to reduce non-adherence to medication are shown in Fig. 2

Percentage and frequency of impact of not adherence medication are shown in Fig. 3.

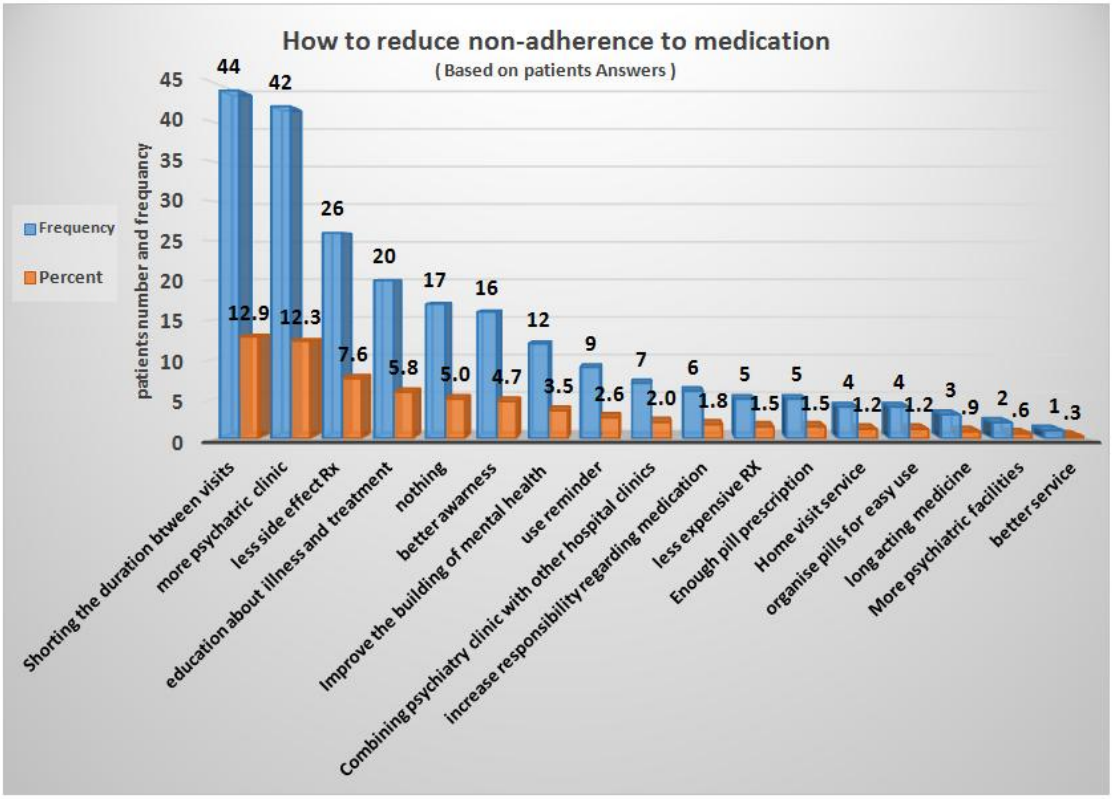

Fig. 2. Frequencies and percent of factors associated with non-adherence to medication

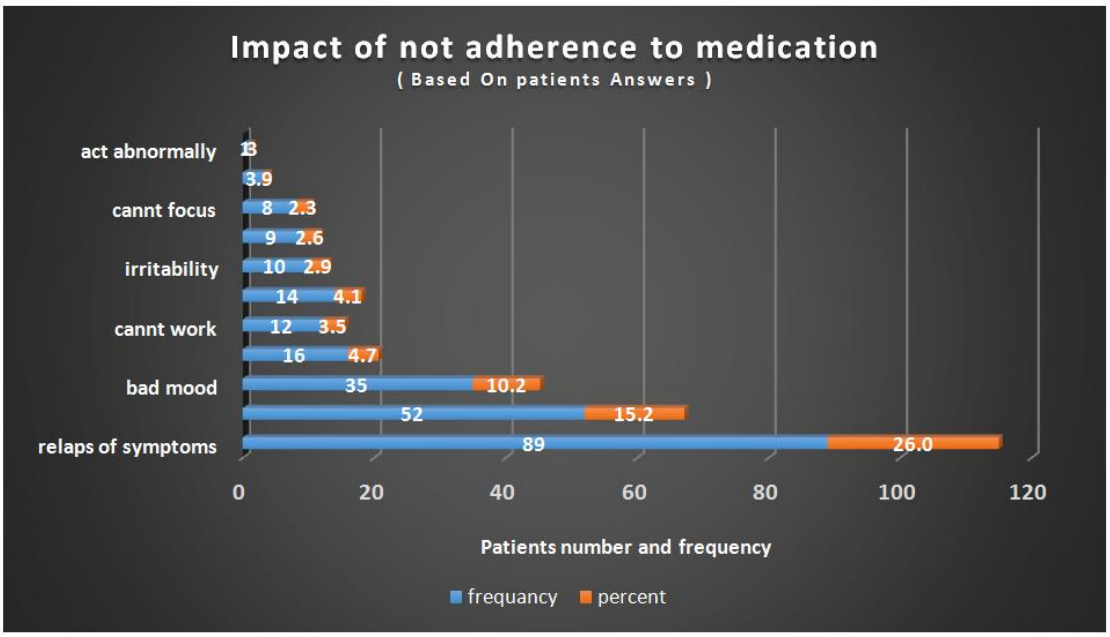

Fig. 3. Impact of not adherence to medication

3.4 Linear Regression Analysis for Variables Associated with Non-adherence

The independent medication-related predictors of non-adherence that found in this study were; the number of tablets taken per day followed by diagnosis and experiencing comorbidity (Odds Ratio (O.R) = 1.056, P ≤ 0.05). (Table 6)

4. DISCUSSION

This study estimated the prevalence rate of non-adherence and determined the medication-related correlates of non-adherence among patients with the psychiatric disorder. In the present study, among the 342 psychiatric patients, (74%) were nonadherent to medication. Level of non-adherent found in our study was agreed with that found by Taj et al. [14] who also showed that 76% of patients were non-adhere. Our finding is more than findings reported by Nirojini, et al. [15] who found that (67%) of the patients became non-adherent. Also, Mukattash, et al. [16] where (64.2%) of psychiatric patients were non-adherent. Findings also higher than that found by Ibrahim, et al. [17] where (54.2%) of the subjects were non-adherent, Gurmu, et al. [18] whom recorded (50.2%) of non-adherent patients and Kenfe, et al. [19] whom reported a non-adherence of (41.2%).

According to our findings, forgetting to take medications (71.6%), careless about the time of taking medication (58.1%), and feeling tired and sluggish when taking medication (59.1%) were the most commonly reported reasons for non-adherence. These reasons were also reported by Kenfe, et al. [19]. They reported that 78.2% forgetting to take medication and 35.6% felt better when they stop the medication. Fawad and Mansoor [20] also found that forgetting to take medication (36%) is the main reason for medication non-adherent.

Our results showed that (96.5%) of the participants, the physician follow up their medication, and 90.9% taking their medication by themselves, while (49.4%) consuming 3-4 medication per day. This result is higher than that reported by Nirojini, et al. [15] who reported that 63% of the patients are consulting the physicians regularly and 58% of the patients are taking the medications on their own while 42% of the

Table 6. Linear regression analyses of variables

Coefficients [a]					
	Unstandardized coefficients		Standardized coefficients	t	Sig.
	B (odd ratio)	Std. error	Beta		
Age	.447	.286	.090	1.563	.119
Marital status	-.154	.173	-.050	-.888	.375
Employment	.184	.205	.052	.897	.370
Monthly income	.253	.262	.055	.967	.335
Diagnosis	-.515	.187	-.150	-2.750	.006*
Experiencing comorbidity	1.270	.482	.148	2.634	.009*
Duration of illness	.903	4.056	.605	.223	.824
How long have you been in continuous therapy	-.749	4.055	-.502	-.185	.854
Duration of illness from last visiting	-.275	.241	-.064	-1.144	.254
Number of tablet taking per day	1.056	.201	.306	5.241	.000*
How do administer medication	.331	.935	.021	.354	.724
Physician follow up medication	2.217	1.735	.072	1.278	.202

[a] : Dependent Variable: non-adherence scale
**: Significant difference*

patients are depending on their care takers. Also, Taj et al. [14] where 58% of the patients are taking the medications on their own and 42 % of the patients are depending on their caretakers. Nirojini, et al. [15] reported that 67% of the patients became non-adherent because of lack of knowledge about the medicines and their benefits and 24% of the patients became non-adherent because of the increased number of medications as most of these patients are consuming 5 to 8 medications per day.

Dosing frequency was the strongest predictor of medication-related non-adherence in this study. Linear regression analysis showed that the independent medication-related predictors of non-adherence found in this study were; the number of tablets taken per day (P = 0.000) followed by diagnosis (P = 0.06) and experiencing comorbidity (P = 0.09). In agreement with our result, Ibrahim et al. [17] found that the independent medication-related predictors of non-adherence were the multiple dosing frequencies (Odds Ratio (O.R) = 7.843, P ≤ 0.001), in addition, Nirojini, [15] found that the most reported reasons for non-adherence included increased number of medications (24%). Pfeiffer et al. [21] have also reported an inverse relationship between dosing frequency and medication adherence among patients. Ibrahim, et al. [17] found that the possible reasons for this outcome are the tendency of forgetting to take the medications as prescribed when the dosing frequency is high, some of the medications side effects particularly sedation and cognitive impairment may hinder adherence in subjects with busy work schedules, and the discomfort associated with taking the medications severally on daily basis.

Regarding the impact of non-adhering to medication, our findings indicated that (25%) of patient recorded that non-adherent to medication relapse their symptoms, (15.2%) cannot sleep, (10.2%) will have a bad mood. To reduce non-adherence to medication, (26%) of patients preferred to use less side effect medication and 20% need more education for more adherence. Ibrahim et al. [17] agreed that the side effect profile of medication contributes significantly to non-adherence to psychotropic medications. A study by DiBonaventura et al. [22], on the impact of side effects on medication adherence among psychiatric patients, also revealed a similar outcome.

5. CONCLUSION

The result of the study showed that non-adherence among psychiatric patients is high. Non-adherence remains a significant challenge for patients with psychiatric disorders, physicians, and healthcare systems which resulting in poorer outcomes for patients. Though the predictors of non-adherence among psychiatric patients are multifactorial, the strongest determinants in this study were the increased number of medication, the presence of side effect, and forgetting of taking medication. According to this we recommend adhering to monotherapy except when the use of multiple drugs becomes compelling and takes consideration the side effects of medications.

CONSENT

Informed consent was obtained before entry into the study.

ETHICAL APPROVAL

The research was conducted according to the ethical principles of medical research developed by the World Medical Association Declaration of Helsinki. Approval was obtained from the admiration of King Abdulaziz hospital and the ethical committee.

COMPETING INTERESTS

Author has declared that no competing interests exist.

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