

**Drug Attitude and Medication Adherence Behavior among Schizophrenic Patients**

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**Abstract**

Background: Non-adherence in patients with schizophrenia is associated with increased hospitalization, higher health care costs and poor long-term outcomes in terms of relapse rates, and suicide attempts. So, this study aimed to assess drug attitude, and medication adherence behavior among schizophrenic patients. Design: A descriptive correlational research design was used in this study. The study sample included 50 male and female schizophrenic patients admitted to the psychiatric inpatient unit of Minia Hospital for Mental Health and addiction treatment. Data were collected through Personal demographic and clinical data sheet, drug attitude inventory scale, and medication adherence behavior tool. Results: it was found that more than half of the studied sample were males, unemployed, while nearly half of them were in age group ranged from 28 <38 years old and married. Regarding drug attitude, this study revealed that, more than three quarters of the studied sample had poor attitude toward drug. In relation to medication adherence behavior, about three quarters of the studied sample had poor adherence. Conclusion: highest percentage of the studied sample had poor attitude toward antipsychotic drug and poor medication adherence behavior. Recommendation: structured psychoeducational program should be developed for schizophrenic patients and their families to improve knowledge about schizophrenia and medication adherence in order to prevent relapse and rehospitalization.

Keywords: Drug attitude, Medication adherence, Schizophrenia.

**Introduction**

Schizophrenia is one of the most serious psychiatric disorders. It carries a lifetime risk for approximately 1% of the population. The symptoms of schizophrenia remain perhaps the most mysterious form of human psychological experience. Early onset of the disease, most often occurs between the age 15 and 30 years old (1). Schizophrenia is a combination of disordered thinking, perception, behavior, affect, and impaired social competency; which means that a schizophrenic patient has difficulty thinking clearly, knowing what real, managing feelings, making decisions, and relating to others (2)

Knowing the attitude of patients towards drugs is very important in patients suffering from psychiatric disorder as schizophrenia. Negative attitude of patient towards psychiatric medication is the foremost cause for nonadherence to medications(3). Additionally, certain study has also found that attitudes of family members and their knowledge of the patient's illness contribute to adherence and that attitudes of the family toward psychotropic medications can influence the attitudes of patients toward these medications(4).

Non-adherence to medication is widely agreed to be one of the most important factors limiting the success of treatment. Additionally, it may constitute a determinant factor affecting the magnitude of health care costs and the cost effectiveness of antipsychotic medications, since high adherence levels can greatly reduce the risk of relapse and subsequent hospitalization costs (5).

The effectiveness of nursing interventions in schizophrenia depends not only on patient performance, but also on the involvement of the entire family and society. This is extremely important in the recovery process. For this, a multidisciplinary and networked effort is crucial. Thus, the nurse's capacity for teamwork is also one of the essential characteristics (6). As educators and advisers, psychiatric nurses can collaborate with schizophrenic patients to improve medication adherence and other outcomes using shared decision-making techniques and tools that engage and empower clients to actively participate in decisions about their treatment (7).

**Significance of the study**

A variety of research found that, adherence to the medication regimen was the main factor of success in treating patients with schizophrenia. Thus, non-adherence to treatment means patients do not follow the treatment recommendations and regimen. Non-adherence to medications is a complicated and multidimensional health problem since it is considered a major hindrance in making treatment efficacy, increase the risk of relapse and subsequent re-hospitalization. On the other hand, through clinical experience; the researcher noticed that a great number of schizophrenic patients have been re-hospitalized. According to Minia Hospital for Mental Health and Addiction treatment statistics was done every 3 months, about half of schizophrenic patients (50%) were re-hospitalized and have relapse of their disorders.

**Aim of the Study:**

The aim of this study was to assess drug attitude, and medication adherence behavior among schizophrenic patients.

**Research Questions:**

Is there a relationship between drug attitude and medication adherence behavior among schizophrenic patients?

**Subjects and Method:**

**Research Design:**

A descriptive correlational research design was used in this study.

**Research Setting:**

This study was conducted at Minia Hospital for Mental Health and Addiction treatment. This hospital is affiliated to Ministry of Health located at New Minia City. It consists of two floors; the first floor for the Outpatient clinics, Pharmacy and Female inpatient unit. The second floor includes Department of Administration, Department of Addiction treatment, Inpatient male unit and the Nursing

office. The hospital capacity is 53 beds for both genders and serves all Minia governorates.

#### **Study subjects:**

A purposive sample consisted of 50 male and female schizophrenic patients were participating in this study.

#### **Inclusion criteria**

- Patients between the ages of 18 and 55 years.
- The patient should be in treatment for at least three months prior to inclusion in the study.

#### **Exclusion criteria**

- Mental retardation.
- Co-morbid diagnosis of substance dependence.
- Organic brain disease.

#### **Tools of Data Collection**

Data were collected through using of the following tools:

Personal demographic and clinical data questionnaire:

The researcher developed an interview questionnaire and covered the following items: Personal data, date of admission, duration of illness, history of hospitalization, number of previous hospitalization, and total duration time of hospitalization.

Drug Attitude Inventory scale (DAI-30):

Drug attitude inventory was developed by Hogan et al, (1983) (8). This scale, developed to measure patient's subjective responses and attitudes towards maintenance of antipsychotic drug therapy. It consisted of 30 items ;15 items for patient who is fully adherent to his/ her prescribed medication (and so would be expected to have a 'positive' subjective response to medication) would answer as 'True', and 15 items such a patient would answer as 'False'. To calculate the score from a set of answers, each 'positive' answer is given a score of plus one, and each 'negative' answer is given a score of minus one. The total score for each patient is calculated as the sum of the pluses and minuses items. A positive total score indicates a positive subjective response and a negative total score indicates a negative subjective response.

The studied sample total scores were divided into 4 groups on the following basis:

- From – 30 to 0: No attitude
- From 0 to 10 : Poor attitude
- From 10 to 20 : Partial attitude
- From 20 to 30 :Good attitude

#### **Reliability:**

The reliability of the tool was done by the statistician and revised by the supervisors. The internal consistencies of the questionnaire were calculated using Cronbach's alpha coefficients test. The Cronbach's alpha of the questionnaires was 0.84, indicate good reliability.

#### **Medication adherence behavior tool:**

Medication adherence behavior tool was developed by the researchers; it consisted of 16 items. It was designed to facilitate the recognition of adherence behavior to psychotropic medications. Response choices were 'yes' or 'no' for all items except item 8 has a five-point Likert

response scale from (0-4). Each "no" response was rated as (1) and each "yes" response was rated as (0) except for item 5 in which each "yes" response is rated as 1 and each "no" response is rated as 0 (reverse score). The studied sample was grouped into 3 categories:

- From 4-8 : poor adherence,
- From 9-12 : partial adherence
- From 13-17: good adherence.

#### **Reliability:**

The reliability of the tool were done by the statistician and revised by the supervisors. The internal consistencies of the questionnaire were calculated using Cronbach's alpha coefficients test. The Cronbach's alpha of the questionnaires was 0.85, indicate good reliability.

#### **Content Validity:**

The tools were submitted to three experts in psychiatric mental health nursing to test their validity (Minia, Assuit and Cairo Universities, Faculty of Nursing, Psychiatric Nursing department) and the necessary modifications were done.

#### **Procedure:**

A review of the related literature which covering various aspects of the problem was done, using available books and journals, to get acquainted with the research problem and to implement the study.

Tools of the study were translated into Arabic by the researchers and were revised by the supervisors.

An official permission was obtained from the research ethical committee of Faculty of Nursing and the director of Minia Hospital for Mental Health and Addiction treatment at Minia governorate to conduct the study. Data of the studied sample were obtained and recorded by the researchers. At the beginning of the interview the researchers greeted each participant, explained the purpose and duration of this study and informed oral consent was taken. The researchers went to the hospital for two days/ week (Saturday, Sunday) from 10 a.m. to 1 p.m. to meet with the studied sample after finishing their breakfast and taking their medications.

#### **Pilot study:**

Pilot study was done to evaluate the tools clarity and applicability as well as the time needed to complete each questionnaire. It was carried out on 10 patients; this number was excluded from the total sample. All sample recruited in the pilot study met the inclusion criteria.

#### **Statistical Analysis:**

The collected data were coded, categorized, tabulated, and analyzed using the Statistical Package for the Social Science (SPSS 24). Quantitative data were expressed as frequency and percentage. Relations between different numerical variables were tested by using Pearson correlation. Probability (p-value) less than 0.05 was considered significant.

#### **Ethical consideration:**

A written initial approval was obtained from the Research Ethical Committee of the Faculty of Nursing, Minia University, there is no risk for study sample during application of this research, the study followed common

ethical issues for participation in the clinical research, privacy was provided during data collection. Anonymity and confidentiality were assured through coding the data; each patient has the right to refuse to participate in the study

without any rationale. Informed oral consent to participate in the study was obtained from educated and uneducated studied sample. A written consent was also obtained from the Patients' Rights Committee in Minia hospital.

**Results**

**Table (1): Frequency distribution of the studied sample personal demographic data (n= 50).**

Variables	No	%
Age		
18<28	18	36
28 <38	20	40
More than 38	12	24
Gender		
Male	30	60
Female	20	40
Marital status		
Single	20	40
Married	23	46
Divorced	5	10
Widow	2	4
Education		
Illiterate	16	32
Read and write	3	6
Secondary	23	46
University	8	16
Occupation		
Unemployed	30	60
Employed	4	8
Farmer	3	6
Free work	5	10
Worker	8	16

Table (1) shows that, 40% of the studied sample are in age range of 28 <38years old. While more than half of them are males, 46% are married and have a secondary school education, while more than half of the studied sample is unemployed.

**Table (2): Frequency distribution of the studied sample clinical data (n= 50).**

Variables	No	%
Disease duration		
<year	5	10
1- <2 years	14	28
2- <3 years	11	22
More than 3 years	20	40
Previous hospitalization		
No	2	4
Yes	48	96
Duration of hospitalization		
< one month	15	31
<2 months	27	57
< 3 months	4	8
More than 3 months	2	4
Frequency of hospitalization		
Once	20	40
Twice	14	28
Three times	8	16
More than three times	8	16

Table (2) shows that, 40 % of the studied sample suffered schizophrenia for more than three years, while the majority of them were previously hospitalized. Regarding duration of hospitalization, more than half of the studied sample stayed in the hospital for < 2 months and 40% of them were admitted once to the hospital.

**Table (3): Frequency distributions of Drug Attitude Inventory (n= 50).**

Items	No.	%
No attitude	39	78
Poor attitude	11	22
Partial attitude	-	-
Good attitude	-	-

Table (3) showed that, more than three quarters of the studied sample had no attitude, while 22% of them had poor attitude.

**Table (4): Frequency distributions of Medication Adherence Behavior (n= 50).**

Items	No.	%
Poor adherence	37	74
Partial adherence	13	26
Good adherence	-	-

Table (4) revealed that, about three quarters of the studied sample had poor adherence, while 26% of them had partial Medication Adherence

**Table (5): Correlations among drug attitude inventory in relation to personal demographic and clinical data (n=50):**

Variables		Drug Attitude Inventory
Gender	r	-.013
	P	0.2
Age	r	.002
	P	0.8
Marital status	r	-.04
	P	0.7
Education	r	.031
	P	0.007**
Occupation	r	.001
	P	0.8
Disease duration	r	-.010
	P	.03
Previous hospitalization	r	.007
	P	0.5
Frequency of hospitalization	r	-.001
	P	0.9
Duration of hospitalization	r	.009
	P	0.04*

Table (5) shows correlations between Drug Attitude Inventory in relation to personal demographic and clinical data. Significant positive correlations are found between Drug Attitude Inventory, education and duration of hospitalization (r=.031 at p= 0.007, r=.009at p=0.04 respectively).

**Table (6): Correlations between Medication Adherence Behavior and different Personal demographic and clinical data (n=50).**

Variables		Medication Adherence behavior
Gender	r	-.006
	P	0.6
Age	r	-.006
	P	0.6
Marital status	r	.025
	P	0.03*
Education	r	.008
	P	0.4
Occupation	r	.012
	P	0.3
Disease duration	r	-.013
	P	0.2
Previous hospitalization	r	.0006
	P	0.9
Frequency of hospitalization	r	.004
	P	0.6

Variables		Medication Adherence behavior
Duration of hospitalization	r	-.012
	P	0.2

Table (6) reveals only one significant positive correlation between Medication Adherence Behavior and Marital status ( $r=.025$  at  $p= 0.03$ ) only.

**Discussion**

Both drug efficacies are affected and the risk for relapse increases as schizophrenic patients discontinue their medications (9). Non-adherence to medications happens after discharge, for that reason, follow-up is important to prevent non-adherence to antipsychotic medication and early detection of signs and symptoms of relapse (10). The present study described the attitude to drug and medication adherence behavior among schizophrenic patients.

The present study revealed that, more than half of the studied sample were males (Table 1). This result might be due to that, age of the onset of schizophrenia was earlier in males than in females. In addition, the hospital location was relatively too far and it was difficult for females to reach it. This result is in the same line with (11) who reported that, about three-quarters of schizophrenic patients were males while (27%) were females. Similarly the result of the current study is in agreement with (12) who stated that, males have a higher prevalence than females due to earlier age of onset and also poor outcomes than females.

As regards the studied sample age, the present study showed that, less than half of them their age ranged between 28 <38 years (Table 1). This result might be due to that, experiences of younger patients to deal with stressors or different problems were less than the older who can deal more wisely than them. In addition, younger individuals may not fully understand the severity of their illness and the need for treatment follow-up. This finding is congruent with (13) who reported that, age of most participants ranged from 24 to 45 years. In the same respect (14) who added that, most of the studied sample was young. This is might be due to that younger patients at the beginning of the disease, may distrust the diagnosis and the need for treatment, and show poorer tolerance to adverse effects of the drug treatment.

Concerning occupation, results of the present study revealed that, more than half of the studied sample were unemployed (table 1). This result might be due to that, different reasons of unemployment; might be unavailable job, low level of education or impaired of occupational function of those patients, stigma of schizophrenic disease .Unemployment associated with financial anxiety or loss of income, loss of social ties, and poor social skills. The unemployed person tends to have higher levels of mental illness including schizophrenia. The finding is in agreement with (15) who reported that more than half of schizophrenic patients were unemployed.

As regards previous hospitalization and frequency of hospitalization in the current study, majority of the studied sample were previously hospitalized, while less than half of them were admitted once to the hospital (Table 2). This finding could be attributed to many reasons such as poor response to antipsychotic drugs, poor adherence to medications, and lack of social support from family, friends, and exposure of patient to many of life stressors. This finding is in agreement with (16) who found that, more than half of the studied sample relapsed and they had a history of at least one hospital admission. Similarly one prospective study (17) which included 50 schizophrenic patients and

used patient interviews to assess adherence and found that, patients with good adherence had a lower hospitalization rate compared with non-adherent patients.

In relation to drug attitude and medication adherence behavior, findings of the present study demonstrated that, more than three quarters of the studied sample displayed no attitude toward drug, and about three-quarters of them had poor medication adherence (Tables 3 &4). This study result is supported by (18) who reported that, about half of the studied sample have negative attitude toward medication. On the other hand (19) reported that, more than half of the studied sample had medication non-adherence criteria, more than one quarter of displayed minimal adherence, while only (10%) of them had moderate adherence.

In the same respect study by (20) found that, more than half of the studied sample had poor attitude toward antipsychotic. This might be expected as the treatment team did not give the patient or their family sufficient information regarding medications action, dose, route, therapeutic effect and side effects; therefore, caregivers give their patients the hypnotic drugs only and did not give the antipsychotic drugs.

Results of the current study revealed that, there were significant positive correlations between drug attitude inventory and educational level as well as duration of hospitalization (table 5). This result might be related to that, the patient’s educational level might interfered with the complex tasks of medication management and contribute to correct attitude toward drugs. In the same context, other study by (21) reported that, there was significant positive correlation between being illiterate and attitude toward antipsychotics drug therapy of schizophrenic patients.

Concerning Medication Adherence Behavior, this study revealed that, there was negative correlation found between Medication Adherence Behavior and marital status (table 6). This result might be related to that, marital status could be considered as an indicator for availability of social support resources in patient’s life. The degree and quality of support may play an even more important role in influencing adherence behavior among patients who have regular, close contact with family and other caregivers. The previous finding is supported by (22) who examined the correlation between adherence to treatment and mean scores of marital status, a positive correlation was determined between medication adherence and total mean scores of marital status.

**Conclusion**

Most of schizophrenic patients in the studied sample had poor attitude toward antipsychotic treatment of schizophrenia; and poor Medication Adherence Behavior.

**Recommendations**

- A structured psycho- educational program should be developed for patients and their families to promote their knowledge about schizophrenia and medication adherence in order to prevent relapse and re-hospitalization.

- Periodical checkup for schizophrenic patients to assess their ability to maintain taking medications in regular manner.
- Further studies are necessary using a large probability sample for generalization of the results.

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