

## Effect of Psycho educational Program on Improving of Medication Adherence 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. The current study aimed to evaluate the effect of psychoeducational program on improving of medication adherence among schizophrenic patients.

**Design:** Quasi-experimental research design was used to achieve the aim of this study. The study sample included 50 male and female schizophrenic patients. Personal characteristics and clinical data sheet, drug attitude inventory scale, medication adherence behavior tool, and brief psychiatric rating scale were used.

**Results:** revealed 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. Statistically significant differences were found between pretest and posttest, pretest and follow up, also; posttest and follow up regarding drug attitude, medication adherence, and brief psychiatric rating scale. A positive correlation was found between drug attitude inventory and medication adherence behavior.

**Conclusion:** there was highest percentage of schizophrenic patients suffered from poor adherence behavior and poor attitude toward antipsychotic treatment. Also there was a negative correlation between drug attitude inventory and brief psychiatric rating scale.

**Recommendation:** a structured psychoeducational program should be developed for patients' families and friends to promote their knowledge about schizophrenia and medication adherence in order to prevent relapse and rehospitalization.

**Key words:** medication adherence, psychoeducational program, schizophrenic patients.

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### I. Introduction

Schizophrenia is one of the most serious psychiatric disorders. It carries a lifetime risk of approximately 1%. The symptoms of schizophrenia remain perhaps the most mysterious form of human psychological experience. The early onset of the disease, most often occurring between age 15 and 30 years, and its chronic course make this a particularly disabling disorder for patients and their families<sup>(1)</sup>. 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<sup>(2)</sup>. Additionally, certain study have 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<sup>(3)</sup>.

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<sup>(4)</sup>. Some studies have reported substantial benefits from patient education, including improved adherence with medication regimen and lower relapse rate<sup>(5,6)</sup>. Adherence therapy, is defined as psychological intervention based on motivational interviewing, attends to psychosocial resistance by addressing patients' ambivalence about treatment, discussing stigma, and emphasizing self-efficacy and the conceptualization of adherence as the patient's chosen strategy to improve his or her quality of life<sup>(7,8)</sup>.

The important role nurses can play in psychoeducational programs is obvious. It is an extremely important treatment modality for bringing about the desired outcomes of decrease in relapse and re-hospitalization. Once a medication has been chosen, it becomes the nurse's responsibility to provide the patient with information about the medication (s). Also, when there are misunderstandings or fears about medication(s), it is the nurse's responsibility to correct misinformation and help the patient to deal with this fear. In fact, the first step in teaching patients about medications is to explore the patient's perceptions, feelings and attitude toward them<sup>(9)</sup>.

### **Significance of the study**

Many researches found that, adherence to the medication regimen are 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 risk of relapse and subsequent rehospitalization. On the other hand, through our clinical experience the researcher noticed that a great number of schizophrenic patients have been rehospitalized. According to Minia Hospital for Mental Health and addiction treatment statistics was done every 3 months, about half of schizophrenic patients (50%) rehospitalized and relapse of their disorders. Psychiatric nurse can enhance medication adherence by planning and implementing psychoeducational programs for schizophrenic patients'. So a psychoeducational program was designed to improve medication adherence and efficacy of treatment among schizophrenic patients.

## **II. Aim of the study**

Aim of the study has 3 folds:

- To Assess and plane for the psychoeducational program.
- To implement the psychoeducational program.
- To evaluate the effect of psychoeducational program on improving medication adherence among schizophrenic patients.

## **III. Research hypothesis**

**To fulfill the aim of this study, the following research hypothesis was formulated:**

- Does the implementation of psychoeducational program could improve medication adherence among schizophrenic patients?

## **IV. Subjects and Methods**

### **Research Design**

Quasi-experimental (pre and post) research design has been utilized in this study.

### **Setting**

This study was conducted at Minia Hospital for Mental Health and addiction treatment, this hospital is affiliated to ministry of health located in New Minia City. It consists of two floors; the first floor for the outpatient clinics, pharmacy and female inpatient unit. The second floor includes administrations, addiction treatment department, male inpatient unit and nursing office; the hospital capacity is 53 beds for both genders. This hospital serves Minia governorate.

### **Sample**

A purposive sample consisted of 50 male and female schizophrenic patients admitted to the psychiatric inpatient unit of the hospital with the following criteria.

#### **Inclusion criteria**

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

#### **Exclusion criteria**

- Mental retardation.
- Comorbid diagnosis of substance dependence.
- Organic brain disease.

### **Tools of the study:**

Data were collected through utilization of the following tools:

### **Tool (I)**

#### **Personal characteristics and clinical data sheet**

This tool was designed by the researcher to collect the following data ; patient age, gender as well as the educational level, marital status, , occupation, duration of illness ,date of admission, history of hospitalization, number of hospitalization , and total duration of hospitalization.

### **Tool (II)**

#### **Drug Attitude Inventory scale (DAI-30)**

Drug attitude inventory was developed by Hogan et al, (1983) (10) .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. A positive total score indicates a positive subjective response (adherent) and a negative total score indicates a negative subjective response (non-adherent).

The studied sample was divided in to 3 groups on the basis of total score as follow:

- ✓ From 0 to 10 : poor attitude
- ✓ From 10 to 20 : partial attitude
- ✓ From 20 to 30 : good attitude

### **Tool (III)**

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

Medication adherence behavior tool was developed by the researcher; it's 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 was rated as (1) and each 'no'' response was 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

### **Tool (IV)**

#### **Brief psychiatric rating scale (BPRS)**

The Brief Psychiatric Rating Scale (BPRS) was a widely used instrument for assessing the positive, negative, and affective symptoms of individuals who have psychotic disorders, especially schizophrenia. This scale consisted of 18 items representing the disease symptoms presented by the patients. Responses were measured on a 7- point likert scale. The 7 categories for scoring system are (1) not present ,(2) very mild;( 3) mild; (4) moderate; (5) moderately severe; (6) severe; (7) extremely severe. BPRS first published in 1962 as a 16-construct tool by Overall, (1988)<sup>(11)</sup>.The developer's added two additional items, resulting in the 18-item scale used widely today.

To calculate the total score of brief psychiatric rating scale by counting the total number of answers given by the studied sample, and the total score was in an interval scale and ranged from 18 to 73, with a higher score indicating sever symptoms. The studied samplewas grouped into 4 categories; those with absent symptoms, mild symptoms, moderate symptoms and severe symptoms. Score of 18 was absent symptoms, 19-37 was graded as mild symptoms, 38-55 was graded as moderate symptoms and 56-73 was graded as severe symptoms.

### **Validity and reliability of tools**

The questionnaire were reviewed and validated by the Jury committee that was composed of a panel of 3experts of in psychiatric mental health nursing to test their validity (Minia, Assuit and Cairo Universities faculty of nursing Psychiatric Nursing department) that reviewed the tools for clarity, relevance, comprehensiveness, understanding, applicability and considered the aim of this study. The reliability of the tools were done by the statistician and revised by the supervisors. The internal consistencies of the questionnaires were calculated using Cronbach's alpha coefficients. Test-retest used. The Cronbach's alpha of the questionnaires was0.84, 0.85 and 0.73respectively, indicate good reliability.

## **Program description**

### **General objective of the program**

The overall objective of the developed educational program was to increase the studied sample awareness of their illness and improve their adherence of medication.

### **The specific objective of the program**

After implementing the program the studied sample was able to:

- Acquire knowledge about schizophrenia, and antipsychotic drugs treatment.
- Understand and identify consequences of medication nonadherence.
- Recognize strategies to improve medication adherence after discharge from the hospital.
- Identify risk factors for medication non adherence.

### **Development of the educational program**

The proposed program was conducted through the following phases:

#### **1. Assessment phase ( early phase )**

This phase was aimed to assess medication adherence among the studied sample, each patient was interviewed to collect the necessary data .Based on the assessment phase, the program and media were prepared by the investigator in the form of booklet, pictures and videos.

#### **2. Planning (preparatory phase)**

The planning phase included the program strategy time, number of sessions, teaching methods, media used. In addition, the teaching place and the program facilities were checked for appropriateness. Numbers of sessions were 8 sessions, two sessions every week; the duration of each session ranged from 30-60 minutes. Sessions was introduced about (introduction about schizophrenia, General view about treatment of schizophrenia, side effect of antipsychotic and their management, introduction about medication adherence, etc....).A variety of teaching methods were included in this program lectures, group discussion, and sharing experience of the studied sample were utilized in this program.

#### **3. Implementation of the program**

Oral and written agreement for participation was obtained from patients and patient right committee in the hospital. The program was implemented for five subgroup, each subgroup contains ten patients, and the researcher applied the program on available first ten patients in the hospital and after finishing the program on this subgroup, applied the program on the second admitted ten patients until finished five subgroup. 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

#### **4. Evaluation of the program**

The post test was done twice:

- a) Immediately, after one week of the program implementation to test the retention of knowledge about schizophrenia and medication adherence.
- b) Second posttest was done three months after program implementation in order to test the continuation of the effectiveness of the implemented program.

## **Procedure**

An official permission was granted from the director of Minia Hospital for Mental Health and addiction treatment at Minia governorate to conduct the study. Purpose of the study was explained by the researcher through direct personal communication with the studied sample for getting their approval prior starting their participation in the study to gain their cooperation as well as voluntary participation and confidentiality were assured.

The researcher 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. The researcher collected data and applied the program over period of eleven months from (the beginning of December 2016 – to the end of October 2017) through interviewing the studied sample were divided into five subgroups, each included ten patients, each session was conducted for about one hour every day for each group. Pre/post assessment tools were utilized to collect the desired data by the researcher and the follow up of the studied sample was done after three months of the implementing the proposed program through attending the studied sample to outpatient clinic.

**Pilot study**

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

**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; and 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. Also written consent was obtained from patient right committee in the hospital.

**Statistical analysis**

The collected data were coded, categorized, tabulated, and analyzed using the Statistical Package for the Social Science (SPSS 24) .Numerical data were expressed as mean and SD. Quantitative data were expressed as frequency and percentage. For quantitative data, comparison between two variables was done using t-test and comparison between more than two variables used ANOVA test .Relation between different numerical variables was tested using Pearson correlation. Probability (p-value) less than 0.05 was considered significant and less than 0.001 was considered highly significant.

**V. Results**

**Table (1): Frequency distribution of the studied sample according to their personal characteristics (n= 50).**

Variables		No	%
<b>1. Age</b>			
• 18<28		18	36
• 28 <38		20	40
• More than 38		12	24
<b>2. Gender</b>			
• Male		30	60
• Female		20	40
<b>3. Marital status</b>			
• Single		20	40
• Married		23	46
• Divorced		5	10
• Widow		2	4
<b>4. Education</b>			
• Illiterate		16	32
• Read and write		3	6
• Secondary		23	46
• University		8	16
<b>5. Occupation</b>			
• Unemployed		30	60
• Employed		4	8
• Farmer		3	6
• Free work		5	10
• Worker		8	16

Table (1) showed that, more than half of the studied sample were males, 40% of them their age ranged from 28 <38years old , 46% were married and have a secondary education, while 60% of them were unemployed.

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

<b>Disease duration</b>		
<year	5	10
1- <2 years	14	28
2- <3 years	11	22
More than 3 years	20	40
<b>Previous hospitalization</b>		
No	2	4
Yes	48	96

Variables	No	%
Disease duration		
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2- <3 years	11	22
More than 3 years	20	40
Previous hospitalization		
No	2	4
Yes	48	96

As regard clinical data table (2) showed that, 40 % of studied sample suffered from the disease for more than three years, while the majority of them were previously hospitalized.

**Table (3):** Correlations among drug attitude inventory scale, medication adherence behavior tool, and brief psychiatric rating scale (n=50).

Variables		Drug attitude inventory	Medication adherence behavior	Brief psychiatric rating scale
Drug attitude inventory	r		.045	-.028
	P		0.001**	0.04*
Medication adherence behavior	r			-.013
	P			0.3
Brief psychiatric rating scale	r			
	P			

Table (3) represented the correlations among drug attitude inventory, medication adherence behavior, and brief psychiatric rating scale. Significant positive correlation was found between drug attitude inventory and medication adherence behavior ( $r=.045$  at  $p= 0.001$ ). Also it was found that, negative correlation was found between drug attitude inventory and brief psychiatric rating scale ( $r= -.028$  at  $p = 0.04$ ).

**Table (4):** Comparisons among drug attitude inventory, medication adherence behavior, and brief psychiatric rating scale during pretest, immediate post-test and at follow up (n=50).

Variables	Pre- immediate post test				Pre-follow up				Immediate posttest-follow up			
		Mean ±SD	t	P		Mean ±SD	t	P		Mean ±SD	t	P
Drug attitude inventory	Pre	-5.2±6.5	13.2	0.001**	Pretest	-5.2±6.5	15.5	0.001**	Post	6.8±3.5	8.3	0.001**
	Post	6.8±3.5			Follow	14.6±6.1			Follow	14.6±6.1		
Medication adherence behavior	Pre	7.1±1.8	10.8	0.001**	Pretest	7.1±1.8	16.6	0.001**	Post	10.3±1.3	9.5	0.001**
	Post	10.3±1.3			Follow	13.4±1.7			Follow	13.4±1.7		
Brief psychiatric rating scale	Pre	43.7±10.1	12.1	0.001**	Pretest	43.7±10.1	12.2	0.001**	Post	32.2±4.3	12.2	0.001**
	Post	32.2±4.3			Follow	23.8±4.1			Follow	23.8±4.1		

Table (4) showed that, statistically significant difference was detected between pre-posttest regarding drug attitude, medication adherence, and brief psychiatric rating scale (t=13.2, 10.8, 12.1 respectively at p=0.001), between preprogram and follow up (t=15.5, 16.6, 12.2 respectively at p=0.001) and between post program and follow up (t= 8.3, 9.5, 12.2 respectively at p=0.001).

**Table (5):** Correlations among drug attitude inventory scale in relation to personal characteristics 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) showed that, correlations among drug attitude inventory in relation to personal characteristics and clinical data. Significant positive correlations were found between drug attitude inventory, education and duration of hospitalization (r=.031 at p= 0.007, r=.009 at p=0.04 respectively).

**Table (6):** Correlations among medication adherence behavior in relation to personal characteristics 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
Duration of hospitalization	r	-.012
	P	0.2

Table (6) revealed that correlations among medication adherence behavior in relation to personal characteristics and clinical data. Significant positive correlation was found between medication adherence behavior and marital status (r=.025 at p= 0.03).

**Table (7):** Correlations among brief psychiatric rating scale in relation to personal characteristics and clinical data (n=50).

Variables		Brief psychiatric rating scale
Gender	r	.012
	P	0.3
Age	r	-.002
	P	0.8
Marital status	r	.006
	P	0.5
Education	r	-.026
	P	0.01*
Occupation	r	.004
	P	0.7
Disease duration	r	.014
	P	0.2
Previous hospitalization	r	.004
	P	0.7
Frequency of hospitalization	r	.014
	P	0.2
Duration of hospitalization	r	.006
	P	0.5

Table (7) represented that, correlations among brief psychiatric rating scale in relation to personal characteristics and clinical data. There was negative correlation found between brief psychiatric rating scale and education (r= -.026 at p= 0.01).



## VI. Discussion

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 was in the same line with (12) who reported that, about three-quarters of schizophrenic patients were males while (27%) were females. Similarly, the result of the current study was in agreement with (13) who stated that, males have a higher prevalence than females due to earlier age of onset and also poor outcomes than females.

As regard the studied sample age the present study showed that, less than half of the studied sample their age ranged between 28 < 38 years (Table 1). This result might be due to that, experience 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 was congruent with (14) who added that, most of the studied sample were younger, 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.

As regard previous hospitalization and frequency of hospitalization in the current study, majority of the studied sample previously hospitalized, while 40% 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, lack of social support from family, friends, and exposure of patient to many of life stressors. This finding was in agreement with (15) who mentioned that, most of the study sample (61.8%) relapsed and they had a history of at least one hospital admission. Similarly one prospective study (16) 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.

Regarding correlation among drug attitude inventory, medication adherence behavior, and brief psychiatric rating scale. There was positive correlation between drug attitude inventory and medication adherence behavior (table 3). This finding might be due to that, knowledge about attitude toward medication helps to improve patient's adherence and improves the course of disease. Also, the possibility that more positive patient attitudes towards medication are associated with better adherence behaviors among schizophrenic patients. This result was supported by <sup>(17)</sup> who stated that, there was a clear relationship between drug attitudes and medication adherence. Adherence correlated significantly and positively with drug attitudes ( $r=.58, p<.001$ ).

The current study also revealed that, negative correlation was found between drug attitude inventory and brief psychiatric rating scale (table 3). This result could be related to that, there were inverse relationship between patient's attitudes towards maintenance of antipsychotic drug therapy and brief psychiatric rating scale as used for assessing symptoms of schizophrenia. Whenever patient's attitude toward drug is more positive, symptoms of the disease become more decreased. In addition, schizophrenia is a chronic disorder and psychotropic medication is generally administered over longer periods of time, subjective attitudes and long-term adherence consider important factors in control symptoms of schizophrenic disorders.

In the same respect several studies <sup>(18, 19)</sup> reported that, BPRS negatively correlated with the patient's attitude. In the same line, significant correlation was found between positive schizophrenic symptoms, patient's attitude, and confirmed in another study by <sup>(20)</sup>, who reported that, positive attitude was correlated with a decrease symptoms scores. This emphasizes the importance of encouraging patients who are in remission symptoms to continue treatment in order to prevent relapse.

The present study revealed that, drug attitude, medication adherence, and brief psychiatric rating scale were significantly improved after the implementation of the training program at posttest and follow up (table 4). This could be explained in the light of the important of psychoeducational intervention and its positive impact on the studied sample knowledge, attitude toward their illness and pharmacotherapy. In addition the studied sample gained information about their illness, antipsychotic treatment, importance of drug adherence and consequences of medication non-adherence. Also, they learned how to follow strategies to improve drug adherence. And that is through attending and participation in psychoeducational sessions.

This finding was supported by <sup>(21)</sup> who reported that, improvement of medication adherence by psychoeducational therapy. Psychoeducation can lead to a significant improvement of long-term outcome and save treatment costs, by the reduced number of hospital days. Being better informed and thus better empowered, patients can positively influence their drug treatment and reduce side effects in the long run. Moreover <sup>(22)</sup> added that, concerning the changes in patient's knowledge about the disorder and its treatment after the intervention in the study group there is increasing in the numbers of those who had correct knowledge and attitude toward treatment in almost all areas. However no statistically significant differences could be shown, between pre and post-intervention.

Also the results of the current study revealed that, there was significant positive correlation between drug attitude inventory in relation to educational level and duration of hospitalization (table 5). This result might be related to that, the studied sample educational level may interfered with the complex tasks of medication

management and contributes to correct attitude toward drugs. In the same context, other studies by<sup>(23), (24)</sup> who reported that, there was significant 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 was supported by<sup>(25)</sup> 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.

The current study also revealed that, there were negative correlations found between brief psychiatric rating scale and the studied sample educational level (table 7). This could be explained in the light of high educational level might be associated with decreased of schizophrenic symptom because the studied sample might be change their views about the necessity of psychiatric treatment, their perception about roles of others in initiating psychiatric treatment, and suggestions they might have about getting treatment started at an earlier point in time. So symptoms of their illness will be controlled and in remission; but illiterate patient may be unable to perceive their illness, treatment and side effects of the drug with a correct manner, so severity of symptoms may be increased, and take longer time until remission.

This result was in contrast with several studies by<sup>(26)</sup> who reported that, socio-demographic variables such as educational status, living arrangement and age were all positively correlated with brief psychiatric rating scale which used to evaluate the symptoms of schizophrenia. Similarly<sup>(27)</sup> added that, most of the patients who suffered from severe symptoms had high school compared to those not educated and a higher percentage of them were professional, intermediate or skilled workers.

## VII. Conclusion

There was a correlation among drug attitude and medication adherence behavior. Also there was negative correlation between drug attitude inventory and brief psychiatric rating scale.

### Recommendations

- In service training as psychoeducational tasks to educate nurses is very important in order to improve patient care.
- Using brochures, handouts and posters enhance patient's knowledge about their illness and treatment which supposed to be distributed continuously.
- Social skill training program should be introduced as a useful way to help patients to develop and promote their coping skills with their illness and acceptance of treatment.
- Periodical checkup for schizophrenic patients to assess their ability to maintain taking medications in regular manner.

### References

- [1]. Allardyce, J., Boydell, J., (2006): Review: The wider social environment and schizophrenia. *Schizophrenia Bulletin*, 32(4), 592–8.
- [2]. Smith, C., Barzman, D., Pristach, A., (2015) : Effect of patient and family insight on compliance of schizophrenic patients. *J Clin Pharmacol.*; 37:147–54.
- [3]. Mantonakis, J., Markidis, M., Kontaxakis, V., Liakos, A., (2011): A scale for detection of negative attitudes towards medication among relatives of schizophrenic patients. *Acta Psychiatr Scand.* 71:186–9.
- [4]. Crespo-Facorro, B., Piven, S., Schultz, K., (2007): Psychosis in late life: How does it fit into current diagnostic criteria? *American Journal of Psychiatry*, 156(4), 624–629
- [5]. El-Mallakh, P., Findlay, J., (2015): Strategies to improve medication adherence in patients with schizophrenia: The role of support services. *Neuropsychiatric Disease and treatment*, 11, 1077–1090.
- [6]. Kikkert, J., Barbui, C., Koeter, W., David, S., Leese, M., Tansella, M., Schene, H., (2008): Assessment of medication adherence in patients with schizophrenia: The Achilles heel of adherence research. *Journal of Nervous and Mental Disease*, 196(4), 274–281.
- [7]. Gibson, S., Brand, S., Burt, S., Boden, Z., Benson, O., (2013): Understanding treatment non-adherence in schizophrenia and bipolar disorder: a survey of what service users do and why. *BMC Psychiatry*, 13-153.
- [8]. American Psychiatric Association (2006): Evidence-Based Treatments for Schizophrenia: Information for families and Other Supporters. Arlington, VA: American Psychiatric Association
- [9]. World Health Organization. (2011): Schizophrenia. Geneva: World Health Organization
- [10]. Hogan, P., Awad, G., Eastwood, R., (1983): A self-report scale predictive of drug compliance in schizophrenics: reliability and discriminative validity. *Psychol. Med.* 13, 177–183.
- [11]. Overall, E., Gorham, R., (1988): The Brief Psychiatric Rating Scale (BPRS): recent developments in ascertainment and scaling. *Psychopharmacology Bulletin* 24:97-99.
- [12]. Nora, M., (2014): Effects of Psychoeducation Intervention in Improving Insight and Medication Compliance of Schizophrenic Clients, Riyadh, Saudi Arabia, *World Journal of Medical Sciences* 11 (3): 289-300.
- [13]. Andrea, E., Pusey-Murray, Paul, A., Bourne, L., Janet La, G., Christopher, D., (2010): Medication compliance among schizophrenic patients in public clinics in Kingston. *Biomedical Science and Engineering*, 3, 602-611

- [14]. Haddad, P., Brain, C., Scott, J., (2014): Nonadherence with antipsychotic medication in schizophrenia: Challenges and management strategies. *Patient Related Outcome Measures*,5:43–62
- [15]. Kazadi, N., Moosa, M., Jeenah, F., (2008): Factors associated with relapse in schizophrenia. *Volume 14 No. 2 June 2008 – SAJP*24:245–54.
- [16]. Morken, G., Widen, J., Grawe, R., (2010): Nonadherence to antipsychotic medication, relapse and rehospitalization in recent-onset schizophrenia. *BMC Psychiatry* 8: 32.
- [17]. Lacro, J., Dunn, B., Dolder, R., Leckb, S., Jeste, V., (2012): Prevalence of and risk factors for medication non-adherence in patients with schizophrenia: a comprehensive review of recent literature. *J Clin Psychiatry*,63: 892-909
- [18]. Ruscher, M., Howe, A., Mazmanian, D., (2007): Psychiatric patient attitudes about medication and factors affecting non-compliance. *Psychiatr Serv*; 48:82-5.
- [19]. Cabeza, I., Amador, S., Lopez, C., de Chávez, G., (2010): Subjective response to antipsychotics in schizophrenic patients: clinical implications and related factors. *Schizophr Res*, 41(2): 349-55.
- [20]. Hofer, A., Kemmler, G., Eder, U., Honeder, M., Hummer, M., (2011): Attitudes toward antipsychotics among outpatient clinic attendees with schizophrenia. *J Clin Psychiatry*, 63(1):49-53.
- [21]. Zhao, S., Sampson, S., Xia, J., Jayaram, M., (2015): Psychoeducation for people with serious mental illness. *Cochrane Database Syst Rev*. 23:663-674.
- [22]. Nasr, T., Kausar, R., (2009): Psychoeducation and the drug compliance in schizophrenia: a randomized controlled trial. *Annals of General Psychiatry*, 8:17-22
- [23]. Jansen, B., Gaebel, W., Haerter, M., Komaharadi, F., Lindel, B., Weinmann, S., (2016) : Evaluation of factors influencing medication compliance in inpatient treatment of psychotic disorders. *Psychopharmacology*, 187:229–236
- [24]. Markowitz, M., Karve, S., Panish, J., Candrilli, D., Alphas, L., (2013): Antipsychotic adherence patterns and health care utilization and costs among patients discharged after a schizophrenia-related hospitalization. *BMC Psychiatry* 13:246.
- [25]. Fawad, T., Mansoor, T. (2008): Factors associated with Non-adherence among Psychiatric patients at a Tertiary Care Hospital. 8. Vol. 58. Karachi, Pakistan: *J Pak Med Assoc.* Aug 6, 623-629
- [26]. Pitschel-Walz, G., Bäuml, J., Bender, W., Engel, R., Wagner, M., Kissling, W., (2006): Psychoeducation and compliance in the treatment of schizophrenia: results of the Munich Psychosis Information Project Study. *J Clin Psychiatry*. 67:443-452
- [27]. Bechdolf, A., Kohn, D., Knost, B., Pukrop, R., Klosterkötter, J., (2015): A randomized comparison of group cognitive-behavioral therapy and group psychoeducation in acute patients with schizophrenia: outcome at 24 months. *Acta Psychiatr Scand*, 112 ,173–179.

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