

Effect of Psycho - Educational Program for Schizophrenic Patients on Their Adherence to Antipsychotic Medication

Mawaheb Mahmoud Zaki, Fathyeya Said Sayed & Faten Mohamed Ahmed

Lecturer of Psychiatric Nursing and Mental Health, Faculty of Nursing, Benha University

Corresponding Author: Mawaheb Mahmoud Zaki

Abstract

Background: The success of medication treatment is dependent on a patient's adherence to the medication regimen and non-adherence amongst psychiatric patients is associated with poor clinical outcomes and high resource utilization.

This study aimed to assess the effect of psycho- educational program for the schizophrenic patients on their adherence to antipsychotic medication.

Research hypothesis: The psycho- educational program will have a positive effect for schizophrenic patients on their adherence to antipsychotic medication.

Design: quasi-experimental design (one group pre test -post test design) was utilized to achieve the aim of the study.

Setting: The study was conducted in psychiatric inpatient ward at psychiatric and mental health hospital in Benha City.

Subjects: A convenience sample of a total 40 male patients suffering from schizophrenia who are hospitalized in psychiatric and mental health hospital

Tools of Data Collection: The following tools were used for data collection

Tool (1): Structured Interview Questionnaire,

Tool (2): Clinical characteristics of the studied patients

Tool (3): Personal Evaluations of Transitions in Treatment was adopted by (Voruganti and Awad, 2002):

Tool (4): Clinician Rating Scale was adopted by (Kemp et al, 1998).

The main findings of the study were: There are highly statistically significant differences between pre and post program regarding to Level of adherence of medication.

Conclusion: Based on the findings of the present study, it is concluded that psycho-educational program had appositive effect for schizophrenic patients on their adherence to antipsychotic medication.

Recommendations: Programs should be designed by psychiatric hospital through health care provider for increasing awareness of clients about their illness and medication adherence to decrease the relapse rate and frequent hospitalization.

Key words: Schizophrenia, Patients, Adherence, Antipsychotic Medication.

Date of Submission: 17-11-2018

Date of acceptance: 02-12-2018

I. Introduction

Schizophrenia is a chronic psychotic illness that is often characterized by periodic relapses and incomplete remissions. It affects 1% of the population worldwide and is rated as the 8 leading cause of disability adjusted life years worldwide in the age group 15-44 years. It is first diagnosed in late adolescence and early adulthood. Schizophrenia is a psychiatric disorder characterized by positive and negative symptom clusters further subdivided into three syndromes, reality distortion (such as hallucinations and delusions), psychomotor poverty (negative symptoms) and disorganization (thought disorder). Thought disorder and delusions were the most prominent positive symptoms, plus inappropriate affect (which may be classified as a facet of disorganization) which, when present, were associated with poor insight. The first episode of schizophrenia and its resolution are likely to form a critical period affecting future course (Pooe et al., 2015).

Antipsychotic medication is held to be the cornerstone in the treatment of patients with schizophrenia. Antipsychotics are effective in reducing psychotic symptoms, in preventing psychotic relapses in maintenance therapy and in improving psychosocial functioning. Although some patients turn out to be treatment-resistant to all antipsychotic medication, an effective antipsychotic can be found among the available medications for the majority of patients. This efficacy-effectiveness gap may be largely due to adherence problems with antipsychotic treatment (Buckley & Correl, 2013).

Also, the development of atypical antipsychotic agents makes compliance easier to achieve and maintain in schizophrenic patients, but non-compliance is still a major stumbling block to the effectiveness of drug therapy. Non-compliance with antipsychotic medication has been observed in approximately 50% of people with schizophrenia, and is a major preventable cause of psychiatric morbidity. There are many studies concerning the factors affecting drug compliance in schizophrenic patients. The reported affecting factors included demographic variables, drug dose, side effects, symptoms, insight and attitudes of the family about treatment *Gray et al., (2012)*.

Although patients often prefer oral medications over injectable medications, some benefits can be garnered from the use of long acting injectables (LAI) medications in appropriate patients. LAI antipsychotic formulations require only once- or twice-monthly injections from a physician, compared with daily self-administered doses associated with oral formulations. This less-frequent dosing may improve adherence in some patients and correlate with improved patient outcomes (*West et al., 2013*).

In spite of recent progress in the treatment of schizophrenia during the last decades, non-adherence continues to be a frequent phenomenon; often associated to potentially severe clinical consequences and high costs. Estimated non-adherence rates in schizophrenia are about 50%. These findings together with the fact that non-adherence is considered to be preventable, make the study of this phenomenon a priority objective in psychiatry that includes both the associated risk factors and the efficacy of interventions aimed at reducing it (*Francisco et al., 2012*).

Adherence is a primary determinant of the effectiveness of medication because poor adherence attenuates optimum clinical benefit; Some of the risks faced by clients who adhere poorly to their therapies are: More intense relapses (Relapses related to poor adherence to prescribed medication can be more severe than relapses that occur while the client is taking the medication as recommended, so persistent poor adherence can worsen the overall course of the illness and may eventually make the clients less likely to respond to treatment) . *Tay, 2014* stated that poor adherence might be associated with more severe drug side effects, specifically extra pyramidal side effects. All of the clients (92.7%) taking typical antipsychotic agents might have experienced side effects that they perceived as "bad things" about the medication (*Barkhof et al., 2012*).

In response to the severity, frequency and often negative effects of not taking medication as prescribed, various approaches to improve adherence have been developed. Hence the most effective intervention approach in recent years is psycho education; the potential outcomes of psycho education include increased knowledge; improved adherence; and reduced relapse rates .Monitoring and facilitating adherence should be an ongoing interactive and collaborative process with the client and family; and clinicians need to understand that medication adherence is a potential problem for any client during any phase of treatment (*Roe & Swarbrick., 2012*).

Also, nurses face an important challenge when they believe that clients who choose not to take medication as prescribed are hindering their efforts to make progress toward their personal goals. They can facilitate medication adherence by taking a proactive, yet nonjudgmental and no punitive approach to monitoring medication use, having and conveying a positive attitude about the role of medication for promoting clients' overall health and well-being, supporting and encouraging medication use and being open to addressing questions and concerns from clients and families about taking medication (*Howland., 2012*).

In addition; developing a trusting rapport between nurses and clients can be an important first step in engaging in a dialogue to better understand clients' attitudes and preferences regarding medication and personal recovery goals. Finally, Monitoring adherence to optimize effects and minimize non adherence could be time consuming; but still important for every client (*Linn et al., 2016*).

Aim of the study

This study aimed to assess the effect of psycho educational program for schizophrenic male patient. It was achieved through:

- 1- 1-Assessing level of adherence to antipsychotic medication among schizophrenic patients.
- 2- Developing and implementing psycho educational program for the schizophrenic patients on their adherence to antipsychotic medication.
- 3- Evaluating the effect of psycho educational program for the schizophrenic patients on their adherence to antipsychotic medication.

Research hypothesis:-

The psycho educational program will have a positive effect for schizophrenic patients on their adherence to antipsychotic medication.

Operational Definitions

Schizophrenia: Psychotic disorder manifested by hallucination, delusion and social withdrawal.

Medication Adherence: Following instructions for medication use. Patient and provider agree with recommendations.

Psycho-education: Guideline intervention that improve medication adherence.

Patient: Client receiving psycho-education from an independent researcher.

Subject and methods:

Research design

A quasi-experimental design (one group pre test- post test design) was utilized to achieve the aim of the study.

Setting:

The study was conducted in Psychiatric inpatient ward at Psychiatric and Mental Health Hospital in Benha City. The Hospital is affiliated to General Secretariat of Mental Health. The Hospital is divided into three building:

- 1- One building involving one department for women.
- 2- One building dividing to five departments for men.
- 3- One separate building Addiction Treatment Center.

Subjects

A convenience sample of a total 40 patients suffering from schizophrenia who are hospitalized in Psychiatric and Mental Health Hospital at the previously mentioned setting, classified into 8 groups; each group consisted of 5 patients.

The patients were selected according to the following criteria:-

Inclusion criteria:

- Age range: From 25 to 65 years.
- Sex: Males.
- Ability to respond to inquiries and attend meetings.
- Willingness to participate in the study.

Exclusion criteria:

- Patient's decision to leave the study
- Patients with primary diagnosis of depression and any co-morbid psychiatric disorder.
- Patients with any chronic physical illness, organic brain disorder or substance dependence.

Tools of Data Collection:

The following tools were used for data collection

Tool (1):- Structured Interview Questionnaire: Which include socio-demographic characteristics:It includes age, level of education, marital status, occupation and income.

Tool (2):- Clinical characteristics of the studied patients: - It includes duration of illness, frequency of admission, methods of admission, family history of psychiatric illness and medication used by the patients

Tool (3):- Personal Evaluations of Transitions in Treatment (PETiT) was adopted by Voruganti & Awad, (2002): A scale to measure subjective aspects of antipsychotic drug therapy in schizophrenia. It consists of 30 items to assess two highly relevant domains for schizophrenia: adherence-related attitude (includes 6 items reflecting adherence and feelings towards medication) and psychosocial functioning (24 items describing patient characteristics such as clarity, energy, concentration, functioning, sex drive, and memory). (Cronbach's alpha=0.92)

They should use the following key:

Often Frequently feel or act in the way described

Sometimes Only feel or act that way occasionally

Never Had not felt or acted that way during the past week

Tool (4):-Clinician Rating Scale (CRS) was adopted by Kemp et al., (1998)

The CRS uses an ordinal scale of 1–7 to quantify the clinician's assessment of the level of adherence shown by the patient. Higher numbers represent greater adherence.

Reliability of the tools

Reliability was applied by the researcher for testing the internal consistency of the tool, by administration of the same tools to the same subjects under similar conditions on one or more occasions. Answers from repeated testing were compared (Test-re-test reliability).

Validity of the tools

They were tested for content validity by jury of five experts in the field of psychiatric Health Nursing specialty to ascertain relevance and completeness. The tools proved to be valid.

Administrative Design:

Official letters were issued from the faculty of nursing, to the director of psychiatric and mental health hospital in Benha City, explaining the aim of the study and requesting their permission for data collection and participation of patients in the research process.

Ethical considerations:

The patients with schizophrenia were briefed about the purpose of the study, encouraged and give fully informed oral consent to participate. It was emphasized that all data collected was strictly confidential and the data would be used for scientific purposes only and the patient has full right to withdraw from the study at any time.

Pilot study:

A pilot study was conducted on 10% of the sample to test by the designed assessment tool and its applicability on the sample, and in order to estimate the time needed to fill in the sheets, and to identify obstacles or problems in data collection and accordingly necessary modifications were done. Subjects who shared in the pilot study were excluded from the main study sample.

Fieldwork:

The study was carried out at the in Psychiatric inpatient ward at Psychiatric Mental Health Hospital in Benha City, A convenience schizophrenic patients who fulfilled the inclusion and exclusion criteria were included in the study. The researchers met each patient individually after introducing their selves to patients in order to explain the purpose of the study, assure confidentiality and to obtain informed oral consent to seek participant co-operation before the intervention method was applied.

The field work included 40 patients. The researchers complete the questionnaire (pre- program) from patients for two days a week from 10. AM to 12, 30. PM, each patient was interviewed for half an hour (5 patients /day /4 weeks). This process took one month (January 2017). Data was collected using the interview and observational method. The sheet was filled individually by the researchers for each patient.

The sessions were carried out during (February to March 2017), through 2 days /week. The researchers met 4 groups of patients every day divided into two groups in session, where each group consisted of 5 patients. The contents were repeated for each group by the researchers. Each session lasted approximately from 45 to 60 minutes. The total number of sessions was 7 (1 Introduction about of program, 2 Theoretical and 3 Practical sessions and the final session for patients to revising the program content and gaining overview about the all sessions and their objectives. Then Fill in data collection tools post program interventions which used previously.

Program implementation

The period of implementation was 2 months. Implementation of the study passed into three phases (pre assessment phase, implementation phase and post assessment phase).

Pre assessment phase:

A comfortable, private place was chosen for the interviewers. Orientation was done about the researcher's name, purpose, significance, content of the study. Subjects were interviewed where pre-assessment was done using Structured Interview Questionnaire, Personal Evaluations of Transitions in Treatment (PETiT) and Clinician Rating Scale (CRS).

This psycho-educational program has a general objective and divided into session each session has a set of specific objectives. This was achieved through several teaching methods such: lecture, discussion, providing the example. Data show, video, role play and pictures were used as media. At the end of each session summary, feedback, further clarifications were done for vague items.

The content of the intervention program sessions was as follows:

The researchers were enrolled for 7 sessions, each lasting for 45-60 minutes, on a daily basis. Based on the results obtained from the assessment tools and review of literature, the program content was

developed by the researchers in the form of a booklet, which was distributed for patients in the first session. Sessions of Psycho-education focused on:

- First session of the program: - The researchers introducing themselves and explained to the patients the purpose of the study to seek participants' cooperation and emphasizing that all collected information is strictly confidential. Listening to the participants feeling and problems.
- Second session:-Discuss (Definition, positive & negative symptoms and treatment of the schizophrenia).
- Third session: Identify disease complication & consequences and side effect of medications.
- Fourth session: Practice steps to adhere to medications.
- Fifth session: Apply muscle relaxation techniques for patients.
- Sixth session: Training the patients on problem solving skills.
- Seven sessions: Summarization and conclusion, reviewing the trained materials and receiving feedback from the patients.

Post assessment phase:

An evaluation was done through post test that similar to the pre test was applied using Personal Evaluations of Transitions in Treatment (PETiT) and Clinician Rating Scale (CRS) on schizophrenic patients.

Statistical analysis:

The collected data was organized, coded, computerized, tabulated and analyzed by using the statistical package for social science (SPSS), version (20). Data analysis was accomplished by the use of number, percentage distribution, mean, standard deviation, and relations, one-way ANOVA, Paired t-test according to *Knapp and Miller (1992)* was used to test the significance of some variances. A p-value < 0.05 was considered significant and <0.001 was considered highly significant.

II. Results

Table (1): Number and percentage distribution of the studied patients according to their socio-demographic characteristic (n=40).

Socio-demographic characteristic	No	%
Age		
• 25<35	16	40.0
• 35<45	8	20.0
• 45<55	10	25.0
• 55≤ 65	6	15.0
Mean ± SD	40.65± 11.73	
Education level		
• Illiterate	12	30.0
• Read and write	18	45.0
• Intermediate education	8	20.0
• High education	2	5.0
Marital status		
• Single	28	70.0
• Married	8	20.0
• Divorced	4	10.0
Occupation		
• Working	26	65.0
• Not working	14	35.0
Income		
• Sufficient	18	45.0
• Not sufficient	22	55.0
Total	40	100.0

Table (2): Number and percentage distribution of the studied patients according to their clinical characteristic (n=40).

Clinical characteristic	No	%
Duration of illness (years)		
• 1<5	14	35.0
• 5<10	0	00.0
• 10<15	2	5.0
• 15<20	8	20.0
• 20 or more	16	40.0

Mean ± SD	3.3 ± 1.78	
Frequency of admission		
• One time	16	40.0
• Two time	14	35.0
• Three times or more	10	25.0
Mean ± SD	1.85 ± 0.80	
Method of admission		
• Alone		5.0
• By family	2	90.0
• By police	36	5.0
	2	
Family history of psychiatric illness		
• Yes	10	25.0
• No	30	75.0
Medication used by patients		
• clozapex,cognitol,neurazin and haldol	30	75.0
	2	5.0
• clozapex,cognitol,tegretol and haldol	2	5.0
	4	10.0
• clozapex,psychodal and depakin	2	5.0
• cognitol,psychodal,haldol and quitapine		
• cognitol,psychodal and haldol		
Total	40	100.0

Table (3): Comparison between pre and post program interventions regarding to Personal and social functioning related to Personal Evaluations of Transitions in Treatment.

Personal and social functioning	Pre program (n=40)	Post program (n=40)	Paired t-test	P-value
1-My mind is sharp and clear	2.15 ± .80	2.55 ± 0.50	-5.099	<0.001**
4 -I believe that people feel comfortable around me	2.10 ± 0.90	2.50 ± 0.51	-4.284	<0.001**
6 -I find it hard to come up with new ideas	1.80 ± 0.76	1.20 ± 0.40	7.649	<0.001**
7- I am unable to trust people	1.80 ± 0.69	1.15 ± 0.36	8.510	<0.001**
9- I am able to concentrate on reading or television	2.05 ± 0.93	2.65 ± 0.48	-6.426	<0.001**
11- I have family or friends who really understand me	1.85 ± 0.73	2.60 ± 0.50	-8.735	<0.001**
12- My sex drive is weak	1.95 ± 0.93	1.30 ± 0.46	4.759	<0.001**
13- I am able to communicate better with people	1.90 ± 0.84	2.65 ± 0.48	-8.735	<0.001**
14- Chores such as cleaning, washing and shopping are too much for me	2.10 ± 0.78	1.50 ± 0.68	5.649	<0.001**
15- I am able to remember things easily	2.0 ± 0.78	2.65 ± 0.48	-8.510	<0.001**
19- I avoid meeting new people	1.50 ± 0.68	1.10 ± 0.30	5.099	<0.001**
21- I can handle the daily hassles of life	2.05 ± 0.81	2.45 ± 0.60	-3.399	0.002*
23 -I am not sleeping well	1.85 ± 0.86	1.30 ± 0.56	3.973	<0.001**
24- I am able to do things as well as other people	2.40 ± 0.59	2.70 ± 0.46	-4.088	<0.001**

(*) Statistically Significant at ≤0.05 (**) Highly Statistically Significant at ≤0.001 (SD) Standard Deviation

Table (4): Comparison between pre and post program interventions regarding to Psychological functioning related to Personal Evaluations of Transitions in Treatment

Psychological functioning	Pre program (n=40)	Post program (n=40)	Paired t-test	P-value
2 -I am worried about what is happening to my health	2.15 ± .80	1.50 ± 0.6	8.510	<0.001**
3 -I feel dull and sluggish	2.0 ± 0.85	1.40 ± 0.59	7.649	<0.001**

5- I feel too tired to do things that I should do	1.85 ± 0.80	1.30 ± 0.65	5.827	<0.001**
8- I am satisfied with my life	2.15 ± 0.92	3.35 ± 4.83	-1.616	n.s 0.114
10- I am unhappy	2.00 ± 0.85	1.30 ± 0.46	7.851	<0.001**
16- I feel ready to work either as a volunteer or for pay	2.15 ± 0.73	2.55 ± 0.60	-3.766	0.001**
17- I feel good about myself	1.85 ± 0.73	2.50 ± 0.60	-5.589	<0.001**
18- My future seems gloomy	1.85 ± 0.92	1.30 ± 0.46	5.827	<0.001**
20- I feel weird and strange	2.00 ± 0.90	1.50 ± 0.60	5.278	<0.001**
22- I dislike the way I look	2.05 ± 0.81	1.25 ± 0.44	8.327	<0.001**

(n.s) Not Statistically Significant (**) Highly Statistically Significant at ≤0.001 (SD) Standard Deviation

Table (5): Comparison between pre and post program interventions regarding to Questions about medication related to Personal Evaluations of Transitions in Treatment.

Questions about medication	Pre program (n=40)	Post program (n=40)	Paired t-test	P-value
1- I forget to take my medication	1.45 ± 0.75	1.15 ± 0.36	3.365	0.002*
2- My medication is helping me	2.40 ± 0.74	2.80 ± 0.40	-5.099	<0.001**
3- I dislike my current medication	1.90 ± 0.78	1.30 ± 0.46	7.649	<0.001**
4 - Friends and family believe that my current medication is good for me	2.50 ± 0.75	2.90 ± 0.30	-4.284	<0.001**
5- Taking medication is unpleasant	1.70 ± 0.79	1.20 ± 0.40	4.655	<0.001**
6 - I feel that the good things about taking medication outweigh the bad	1.60 ± 0.74	1.15 ± 0.36	3.798	<0.001**

(*) Statistically Significant at ≤0.05 (**) Highly Statistically Significant at ≤0.001 (SD) Standard Deviation

Table (6): Comparison between pre and post program interventions regarding to Level of adherence of medication related to clinician rating scale of schizophrenic patients.

Interval	Items	Pre program (n=40)	Post program (n=40)	Paired t-test	P-Value
Level of adherence		4.70 ± 1.16	6.0 ± 0.78	-9.021	<0.001**

(**) Highly Statistically Significant at ≤0.001

(SD) Standard Deviation

Table (7): Relation between socio-demographic characteristic and the level of adherence of the studied patients pre and post program interventions

socio-demographic characteristic	Level of adherence					
	Pre program (n=40)			Post program (n=40)		
	Mean ± SD	Anova-test	P- value	Mean ± SD	Anova-test	P- value
Age (in years)						
• 25<35	4.12 ± 0.96	1.19	0.33 ^{n.s}	5.75 ± 0.68	4.13	0.013*
• 35<45	4.75 ± 0.46			6.25 ± 0.46		
• 45<55	5.60 ± 1.58			1.15 ± 0.36		
• 55≤60	4.67 ± 0.52			6.33 ± 0.52		
Education level						
• Illiterate	5.00 ± 1.35	2.15	0.11 ^{n.s}	5.83 ± 0.94	9.42	<0.001**
• Read and write	4.55 ± 0.71			6.11 ± 0.32		
• Intermediate education	5.00 ± 1.51			6.50 ± 0.53		
• High education	3.00 ± 0.00			4.00 ± 0.00		

(n.s) Not Statistically Significant (*) Statistically Significant at ≤0.05 (SD) Standard Deviation

Level of adherence						
Table (7) cont.	Pre program (n=40)			Post program (n=40)		
	Mean ± SD	Anova-test	P- value	Mean ± SD	Anova-test	P- value
Marital status						
• Single	4.71 ±1.05	1.748	0.188 ^{ns}	5.85 ± 0.85	4.739	0.015*
• Married	4.00 ±1.07			6.25 ± 0.46		
• Divorced	6.00 ±1.15			6.50 ± 0.58		
Occupation	Mean ± SD	Paired t-test	P- value	Mean ± SD	Paired t-test	P- value
• Working	4.38 ± 1.16	3.004	0.09	5.85 ± 0.88	6.238	0.017*
• Not working	5.28 ± 0.91			6.28 ± 0.47		
Income						
• Not sufficient	4.63 ± 1.18	0.144	0.706 ^{ns}	6.00 ± 0.75	0.000	1.00 ^{ns}
• Sufficient	4.77 ± 1.16			6.00 ± 0.84		

Table (8): Relation between clinical characteristic and the level of adherence of the studied patients pre and post program interventions.

Level of adherence						
Clinical characteristic	Pre program (n=40)			Post program (n=40)		
	Mean ± SD	Anova-test	P- value	Mean ± SD	Anova-test	P- value
Duration of illness (years)						
• 1<5	4.71 ± 0.73	2.148	0.111 ^{ns}	6.00 ± 0.00	9.421	≤0.001**
• 10<15	5.00 ± 0.00			6.00 ± 0.00		
• 15<20	4.75 ± 1.58			5.75 ± 1.16		
• 20 or more	4.62 ± 1.36			6.12 ± 0.96		
Frequency of admission						
• One time	5.12 ± 0.96	4.178	0.023*	6.12 ± 0.34	12.764	≤0.001**
• Two time	3.71 ± 0.91			5.58 ± 1.09		
• Three times or more	5.40 ± 0.84			6.40 ± 0.52		

Level of adherence						
Table (8) cont.	Pre program (n=40)			Post program (n=40)		
	Mean ± SD	Anova-test	P- value	Mean ± SD	Anova-test	P- value
Method of admission						
• Alone	5.00 ± 0.00	0.142	0.868 ^{ns}	6.00 ± 0.00	0.000	1.000 ^{ns}
• By family	4.67 ± 1.21			6.00 ± 0.83		
• By police	5.00 ± 0.00			6.00 ± 0.00		
Family history of psychiatric illness	Mean ± SD	Paired t-test	P- value	Mean ± SD	Paired t-test	P- value
• Yes	4.40 ± 0.84	0.891	0.351 ^{ns}	6.20 ± 0.421	0.864	0.359 ^{ns}
• No	4.80 ± 1.24			5.93 ± 0.87		
Medication used by patients	Mean ± SD	Anova-test	P- value	Mean ± SD	Anova-test	P- value
• Clozapex ,cognitol, neurazin and haldol	4.53 ± 1.04	0.434	0.783 ^{ns}	5.93 ± 0.87	5.372	0.002*
• Clozapex, cognitol, tegretol and haldol	3.00 ± 0.00			6.00 ± 0.00		
• Clozapex , psychodal and depakin	5.00 ± 0.00			6.00 ± 0.00		
• Cognitol, psychodal, haldol and quitapine	6.50 ± 0.58			6.50 ± 0.58		
• Cognitol, psychodal and haldol	5.00 ± 0.00			6.00 ± 0.00		

(n.s) Not Statistically Significant (*) Statistically Significant at ≤0.05 (**) Highly Statistically Significant at ≤0.001 (SD) Standard Deviation

Table (1): This table shows that, the socio- demographic characteristic of the studied patients. As regard age, highest percentage (40.0%) were between 25<35 years with a mean age of **40.65± 11.73** years, more than one third (45.0%) of the studied patients were read and write, the majority (70.0%) of them were single. In relation to occupation, nearly two thirds (65.0%) were working and more than half (55.0%) of the studied patients did not have sufficient income.

Table (2): This table shows that, clinical characteristic of the studied patients. As regard duration of illness, highest percentage (40.0%) were from 20 or more years and (35.0%) were from 1<5 years with a mean duration of illness of **3.3 ± 1.78** years, less than half (40.0%) were one times of admission with a mean frequency of admission of **1.85 ± 0.80** time, majority of patients (90.0%) were admitted by family and most (75.0 %) of them had no family history of psychiatric illness and more than two thirds (75.0 %) of the studied patients have used clozapex,cognitol,neurazin and haldol.

Table (3): This table shows that, there are statistical and highly statistically significant differences between pre and post program interventions in relation to all items regarding to Personal and social functioning related to Personal Evaluations of Transitions in Treatment.

Table(4): This table shows that, there are not statistically significant differences between pre and post program interventions in relation to item (8) , and there are highly statistically significant differences between pre and post program in relation to all items regarding to Psychological functioning related to Personal Evaluations of Transitions in Treatment.

Table(5) : This table shows that, there are statistically and highly statistically significant differences between pre and post program interventions in relation to all items regarding to questions about medication related to Personal Evaluations of Transitions in Treatment.

Table(6) :This table shows that, there are highly statistically significant differences between pre and post program interventions regarding to Level of adherence of medication related to clinician rating scale of schizophrenic patients.

Table (7) :This table clarifies that, there are not statistically significant differences between the level of adherence of the studied patients and income pre and post program and there are statistically and highly statistically significant differences between the level of adherence of the studied patients and socio-demographic characteristic such as age, education level, marital status and occupation pre and post program .

Table (8):This table shows that, there are not statistically significant differences between the level of adherence of the studied patients and clinical characteristic such as Method of admission and Family history of psychiatric illness pre and post program interventions and there are statistically and highly statistically significant differences between the level of adherence of the studied patients and clinical characteristic such as Duration of illness , Frequency of admission, and Medication used by patients pre and post program .

III. Discussion

There is overwhelming evidence that antipsychotics can be effective in treating the symptoms of schizophrenia. However, the failure of many patients with schizophrenia to follow their prescribed medication regimen has significantly undermined the promise of antipsychotic medications. Rates of medication non adherence among patients with schizophrenia have been found to approach 50% during the first year after hospital discharge. The actual rate of non adherence may be even higher, as the estimates do not account for individuals who refuse treatment or drop out of follow-up studies. Moreover, there is little evidence that progress has been made in increasing adherence, despite the advent of newer antipsychotic medications with less severe and disabling side effects (**Young et al., 2009**).

The present study revealed that, as regard age, highest percentage of the studied patients were between 25<35 years with a mean age of **40.65± 11.73** years. It could be due to schizophrenia most often develops in late adolescence or early adulthood. Concerning Education level, more than one third of the studied patients were read and write. On the contrary, these findings were in disagreement with **Kunikata et al., (2013)**, stated that, the highest percentage of the patients was high education.

In this study, the results showed that, the majority of the studied patients were single. This is may be due to the debilitating nature of the illness and schizophrenic patients have difficulties to establish and maintain stable relationships. Especially men, face difficulties to keep up marital relations, as the disease lead to deficits in social functioning. These findings were in agreement with **Atia (2011)**, found that, the majority of the patients were not married. Also this finding was in accordance with **Cardoso et al., (2006)**, who stated that, people with schizophrenia are less often married than the general population. On the contrary, these findings were in disagreement with **Solanki et al., (2013)**, stated that, most of the patients were married.

The result of the current study revealed that, more than half of the studied patients were not working. This could be explained as schizophrenia has been described as the most severe psychotic disorder, with a significant effect on the person's everyday life and functional capacity. These findings were in accordance with **Elsaied (2013)**, found that in their study a highest percentage of the patients were not working.

According to **Zubin and Spring (2013)**, demonstrated that many patients never married and were unemployed may reflect their deficits when interacting and coping with their human, social and physical environment and the complexity of modern society. In addition to, estimates of unemployment in people with schizophrenia were 70-85 percent; this can be explained by the fact that in developed countries jobs are more complicated than in less advanced societies.

In this study, the results demonstrated that, more than half of the studied patients didn't have sufficient income. This may be due to most patients do not work and the cost of treatment is expensive. These findings were similar to the study done by **Elsaied (2013)**, found that more than half of the patients economic status were not enough. On the contrary, these findings were in disagreement with **Solanki et al., (2013)**, found that, the majority of the patient's economic status was sufficient.

The study result also showed that, As regard duration of illness, highest percentage of the studied patients were from 20 or more years. These findings were in disagreement with **Alex (2013)**, found in their study that a highest percentage of the studied subjects regarding duration of illness were from 5<10 years. Also, on the same line these findings were in disagreement with **Young (2012)**, found that, most of the patients regarding duration of illness were from 15<20 years.

Concerning frequency of admission, less than half of the studied patients were one times with a mean frequency of admission of 1.85 ± 0.80 time. These findings were in agreement with **AbdElfattah (2012)**, found that, the majority of the patients re-hospitalization rate were one time. Conversely **Ahmed (2011)**, reported that most of the patient admission were two times.

Regarding method of admission, majority of patients were admitted by family. These finding was supported by **Buckley et al., (2007)**, who stated that, a significant number of patients with schizophrenia have very poor or complete absence of insight into their illness; such patients are more likely to demonstrate complete rejection of the need for treatment and be chronically non-compliance and were admitted by their family .Concerning the family history,most of the studied patients had no family history of psychiatric illness. These findings were similar to the study done by **Solanki et al., (2013)**, stated that, the majority of the studied subjects were absent family history of psychiatric illness.

As regard medication used by patients more than two thirds of the studied patients have used clozapex,cognitol,neurazin and Haldol. This is may be due to these drugs was the most common antipsychotic drugs without extra pyramids side effects which caused from another types of antipsychotics so the doctors prescribed for the patients .

The study result also showed that, there are statistical and highly statistically significant differences between pre and post program in relation to all items regarding to Personal and social functioning related to Personal Evaluations of Transitions in Treatment. This is may be due to that the effective psycho -educational program contain elements of practicality, solving for everyday challenges, incremental shaping of social and independent living skills and personal and attainable goals .These findings were similar to the study done by **Magliano et al., (2012)**, who found statistically and highly statistically significant improvement was found in social and personal aspects after application of family psycho -educational program for schizophrenic patients

Also the present study revealed that, there are highly statistically significant differences between pre and post program in relation to all items regarding to Psychological functioning related to Personal Evaluations of Transitions in Treatment. This is may be due to that the psycho- educational program contain one session of relaxation exercise that help the schizophrenic patients in improving the psychological functioning. These findings were similar to the study done by **Chaiyajan et al., (2009)**, who found significant differences between pre and post Psycho Educational Program on Attitude toward Medication and Compliance with First Appointment after Discharge communication in Schizophrenic Patients in relation to Psychological functioning.

Furthermore this study showed that, there are statistically and highly statistically significant differences between pre and post program interventions in relation to all items regarding to questions about medication related to Personal Evaluations of Transitions in Treatment. This is may be due to the psycho- education program has an effect on increasing the patient's knowledge about adherence to medicine and not stopping the drug without the doctor's prescription.

More ever, this study revealed that, there are highly statistically significant differences between pre and post program regarding to Level of adherence of medication related to clinician rating scale of schizophrenic patients. Because the researcher believes that the high level of adherence to medication as a result of the handout, which was distributed to them during the implementation of the program. These findings were in accordance with **Baruah and Reddemma (2012)**, were found a statistically significant between pre and post test (intervention) drug adherence scores. This observation concluded that psycho educational intervention had appositive effect in improving medication adherence for most of schizophrenic patients. Also this result was similar to the study done by **Boczkowski and colleagues (2009)**, compared the efficacy of behavioral training versus psycho education or standard treatment. Participants who received psycho education were more a adherent at the 3-month follow up than participants who received behavioral training or standard treatment.

The results of the present study revealed that, there are statistically and highly statistically significant differences regarding to the relation between age , education level and the level of adherence of the studied patients pre and post program . This is may be due to the level of education provides the awareness of patients about the importance of adherence to medicine and thus improve their health and reduce their re-hospitalization. This was in agreement with **Mahaya et al., (2012)**, who found correlation between age and educational level and level of adherent. That the younger patients were more likely to have low level of adherence, where as the older patients demonstrated moderate level of adherence.

Also the present study showed that, there are not statistically significant differences regarding to the relation between income and the level of adherence of the studied patients pre and post program. This may be due to, In the Eastern society patients are responsible from their families whether they work or not .This finding was in agreement with **Baby et al.,(2009)** who reported that, income was not correlated with non- adherent in their patients. In contrast, a study by **Ebied (2005)**, revealed that, the patient with insufficient family income were likely to be non-adherent than the patient with sufficient family income.

The result of the current study revealed that, there are highly statistically significant differences regarding to the relation between duration of illness and the level of adherence of the studied patients pre and post program. This was in similarity with **Lacro et al., (2012)**, stated that a shorter duration of illness is likely to be associated with non-adherence. This was in contrast With **Dassa et al ., (2010)**, who stated that, no significant difference was found between the compliant and noncompliant group in relation to the duration of illness

The result of the current study revealed that, there are not statistically significant differences between the level of adherence of the studied patients and Family history of psychiatric illness pre and post program. This finding was supported by **Baby et al., (2009)**, who stated that there was no relationship between family history and level of adherence.

IV. Conclusion

Based on the findings of the present study, it is concluded that psycho educational program had appositve effect for schizophrenic patients on their adherence to antipsychotic medication.

Recommendations

*Programs should be designed by psychiatric hospital through health care provider for increasing awareness of clients about their illness and medication adherence to decrease the relapse rate and frequent hospitalization.

References

- [1]. **Abd Elfattah, A. E., (2012)**: Impact of cognitive behavioral therapy on thoughts and behavioral disorders of schizophrenic patients. Doctorate Thesis, Faculty of Nursing, Menoufya University, p: 73.
- [2]. **Ahmed, M. M., (2011)**: Psychosocial intervention for withdrawal behavior among schizophrenic patients. Doctoral Thesis, Faculty of Nursing, Ain shams University, p. 12.
- [3]. **Alex, H., (2013)**: Patient outcomes in schizophrenia I: Correlates with socio-demographic variables, psychopathology, and side effects. *European Psychiatry* 20, pp: 386–394.
- [4]. **Atia, M. M., (2011)**: The relationship between specific positive and negative symptoms of schizophrenic patients and suicidal ideation and nurses' awareness. Master Thesis, Faculty of Nursing, Menoufya University, p: 62.
- [5]. **Baby, R., Gupta, S. & Sagar, R., (2009)**:-Attitudes and subjective reasons of medication compliance and non- compliance among patients with schizophrenia in India. Vol.7 ,No1.
- [6]. **Barkhof, E., Meijer, C. J., Linszen, D. H. & Haan, L. D., (2012)**: Interventions to improve adherence to antipsychotic medication in patients with schizophrenia—A review of the past decade. *Volume 27 ,Issue (1)*, pp:9-18.
- [7]. **Baruah, A. and Reddemma, K.,(2012)**:-Effectiveness of educative intervention on drug compliance for patients with schizophrenia. *Dysphrenia*, 3,pp: 74-79.
- [8]. **Boczkowski, J., Zeichner, A. & DeSanto, N., (2009)**: Neuroleptic compliance among chronic schizophrenic outpatients: an intervention outcome report. *J Consult Clin Psychiatry*; 53:666–671
- [9]. **Buckley, P. F. & Correl, C.U., (2013)**: Strategies for dosing and switching antipsychotics for optimal clinical management. *J Clin Psychiatry*; 67,pp: 4–17.
- [10]. **Buckley, P., Wirshing, D. & Bhushan, P., (2007)**:- Lack of insight in schizophrenia: impact on treatment adherence. *CNS drugs*; 21, Pp: 29-41.
- [11]. **Cardoso, C., Caiaffa, W., Banderia, M. & Fonseca, J., (2006)**:-Qualidade de videedimensao occupational naEsquiofrenia :Uma coparacaoporsexo.cadsaude publica;22(6):Pp:1303-14.
- [12]. **Chaiyajan, W., Sitthimongkol, P., & Klainin, P., (2009)**:-Effects of Psycho Educational Program on Attitude toward Medication and Compliance with First Appointment after Discharge communication. *Journal of General Psychology*, 99: in *Schizophrenic Patients. Journal of Nursing* 19-25.doi: 10.1080/00221309.1978.9920890
- [13]. **Dassa, D., Boyer, L. & Benoit, M., (2010)**:- Factors associated with medication non-adherence in patients suffering from schizophrenia: across sectional study in a universal coverage Health care System. *Australian and Newzland Journal of psychiatry*: Pp: 921-928.
- [14]. **Ebied, L.,(2005)**:-Psychotic patients adherence ,Master to Psychotropic Medication. Un published thesis, Faculty of Nursing, Seuz canal University.Egypt.p72.
- [15]. **El Saied, S. M., (2013)**: The relationship between psychological well being and coping strategies of schizophrenic relatives. Master Thesis, Faculty of Nursing, Menoufya University, p: 49.
- [16]. **Francisco, J. A., Judit , H. & Carlos, J. R., (2012)**: Medication adherence in schizophrenia *World J Psychiatr* ,22; 2(5),pp: 74-82.

- [17]. Gray, R., Wykes, T. & Gournay, K., (2012): From compliance to concordance: A review of the literature on interventions to enhance compliance with antipsychotic medication. *J Psychiatr Ment health Nurs*; 9, pp: 277-284.
- [18]. Howland, R., (2012): Medication Adherence: Tips for Keeping Patients on Schedule. *Journal of Psychosocial Nursing*, 45, pp: 15-19.
- [19]. Kemp, R., Kirov, G., Everitt, B. Hayward, P. & David A., (1998): Randomised controlled trial of compliance therapy. 18-month follow-up. *Br J Psychiatry* 1998;172, pp :413-9.
- [20]. Knapp, R. & Miller, M., (1992): *Clinical epidemiologist and biostatistics national medical series from Williams and Wilkins*, Baltimore, Hong Kong, London, Sydney, Egyptian edition, p.209.
- [21]. Kunikata, H., Mino, Y. & Nakajima, K., (2013): Quality of life of schizophrenic patients living in the community: The relationships with personal characteristics, objective indicators and self-esteem". *Psychiatry and Clinical Neurosciences*, 59, 2, pp: 163-169.
- [22]. Lacro, J., Dunn, B. & Dodder, C., (2012):- Prevalence of and risk factors for medication non-adherence in patients with schizophrenia; comprehensive review of recent literature. *J clin psychiatry*; pp:892-909.
- [23]. Linn, A., M. Vervolet, L. & Weert, J., (2016):- Effects of Health Interventions on Medication Adherence: A systematic Review of the Literature. *Journal of Medical Internet Research*, 13: e103. doi:10.2196/jmir.1738.
- [24]. Magliano, L., Fiorillo, C., Malangone, C. & Maj, M., (2012):- Patient Functioning and Family Burden in a Controlled, Real-World Trial of Family Psycho education for Schizophrenia. *Psychiatric Services*, 57, pp: 1784-1791. doi:10.1176/appi.ps.57.12.1784
- [25]. Mahaya, S., Mayime, T. & Nkosi, S., (2012):- Medication adherence of psychiatric patients in an outpatient setting; pp: 608-612.
- [26]. Poole, J. M., Sokudela, J. L. Dlamini & Snyman, M., (2015): Testing the effectiveness of existing psycho-educational material (The Alliance Program) for patients suffering from schizophrenia in the South African Context. *African Journal of Psychiatry*, 13, pp: 302-308.
- [27]. Roe, D. & Swarbrick, M., (2012): A Recovery-Oriented Approach to Psychiatric Medication: Guidelines for Nurses. *Journal of Psychosocial Nursing and Mental Health Services*, 45, pp:35-39.
- [28]. Solanki, R., Singh, P. & Midha, A., (2013): Schizophrenia impact on quality of life. *British Journal of Psychiatry*, 50(3), pp: 181-186.
- [29]. Tay, S. E., (2014): Compliance Therapy: An Intervention to Improve Inpatients' Attitudes Toward Treatment *Journal of Psychosocial Nursing*, 45, pp: 29-37.
- [30]. Voruganti, L. N. & Awad, A.G., (2002): Personal evaluation of transitions in treatment (PETiT): a scale to measure subjective aspects of antipsychotic drug therapy in schizophrenia. *Schizophr Res*. 2002 Jul 1;56 (1-2), pp:37-46.
- [31]. West, J. C., Marcus, S. C. Wilk, J. & Countis, L. M., (2013): Use of depot antipsychotic medications for medication non adherence in schizophrenia. *Schizophr Bull*. 34(5), pp:995-1001.
- [32]. Young, J., Spitz, R., Hillbrand, M. & Daneri, G. (2009): Medication adherence failure in schizophrenia: a forensic review of rates, reasons, treatments and prospects. *J Am Acad Psychiatry Law*; 27:426-442.
- [33]. **Young, K. W., (2012)**: Quality of life of people with long-term psychiatric illness living in a residential home. *International Journal of Psychosocial Rehabilitation*. 9 (1), pp: 133-145.
- [34]. **Zubin, J. & Spring, B., (2013)**: Vulnerability a new view of schizophrenia. *J Abnormal Psycho*; 86, pp: 103-26.

Mawaheb Mahmoud Zaki. "Effect of Psycho - Educational Program for Schizophrenic Patients on Their Adherence to Antipsychotic Medication" *IOSR Journal of Nursing and Health Science (IOSR-JNHS)* , vol. 7, no.6 , 2018, pp. 56-67.