Effect of Educational Program on Insight into Illness and Attitudes toward Medications among Schizophrenic Patients

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Abstract: This study assessed the impact of the constructed nursing educational program on insight and attitudes toward medications in a sample of schizophrenic patients who were randomly selected. A quasi-experimental design was utilized in this study. The study was conducted in in-patient clinic at Benha governmental hospital for mental health. A total sample of 40 schizophrenic patients (experimental group 20 patients and control group 20 patients) were selected randomly to participate in the study. Three tools were used for data collection, socio-demographic/ medical data sheet, Insight Scale, and Drug Attitude Inventory Scale. Findings of this study proved the effectiveness of the constructed educational program on schizophrenic patients' insight, whereas no effect on patients' attitude toward medications .The total insight and patients' attitude toward medications were not correlated significantly with number of hospital admission, duration of illness and age at onset of the disease. Patients' attitude toward medications didn't correlated significantly with insight at pre, post, and follow-up program. Therefore the study highlight there is a need to conduct educational sessions periodically for the schizophrenic patients, a matter which increase the schizophrenic insight into illness.

1. Introduction

Schizophrenia is a major mental illness that affects approximately 1 % of the population world wide. The cause of schizophrenia remains unknown despite extensive research; however, evidence suggests that genetic factors, early environmental influences and social issues may contribute to the development of this disease (Mueser and McGurk, 2004).

Insight into illness is the ability of the patient to understand the objective circumstances of his illness, its nature and the optimum circumstances that would help in curing it. Patients with schizophrenia often have difficulty identifying their symptoms of illness and recognizing the presence of a mental disorder (Kennedy, et al., 2000 and Jacobson & Jacobson, 2001). Lack of insight of patients with schizophrenia into various aspects of their illness and treatment is an important clinical issue (Goodman et al., 2005). This lack of insight into illness interferes with the relationship between patients and their treating clinicians and reduces patients' willingness to follow through with recommended treatments (Stuart and Laraia , 2001).

A patient with schizophrenia may fail to take his or her medication, as prescribed, for a number of reasons. The patient may be disturbed by medication's side effects, may believe he or she doesn't need the medication, may believe that the medication is poison. Eighty percent of persons with schizophrenia who stop taking their medication have a relapse within a year, compared with 30% who continue their medication and relapse. The most common causes of relapse and re-hospitalization for "revolving-door" inpatients are medication non-adherence and medication non-response (Haynes, et al., 2000) and (Mohr, 2003).

Patient education is a major component of the treatment plan for the patient with schizophrenia, education about their mental and physical health empowers them to collaborate with their clinicians to make rational treatment decisions. Existing options to increase adherence include psychosocial skills training and targeted adherence training (Calkins & Iacono, 2003).

American Psychiatric Association, 2004 added that, administration of medications is critical. The nurse should develop a method with the patient to remind the patient to take medications, teach the patient about the medication, develop methods with the patient to monitor medication response and side effects, and assess if the patient is taking the medication as ordered.

Therefore, this study was conducted to construct an educational nursing program for schizophrenic patients; induce positive changes in the schizophrenic patients as regard insight and attitude toward medications and assess the impact of this

program on patient insight into illness and attitude toward medications.

2. Subjects and Methods
Aim of the Study
Aims of the study are to:

1- Construct an educational nursing program for schizophrenic patients.

2- Induce positive changes in the schizophrenic patients as regard insight into illness and attitude toward medications.

3- Assess the impact of the program on patients insight into illness and attitude toward medications.

Research Design
A quasi-experimental design was used to achieve the study aims

Setting
In-patient departments at Benha governmental hospital for mental health. The mental health services in this hospital are offered through the in-patient as well as the out-patients clinics for all age groups. Care is provided by multidisciplinary team, psychiatrists, nurses, social workers and psychologists.

Sample
A total sample of 40 schizophrenic patients (experimental group 20 and control group 20) were selected randomly to participate in the study.

Some measures were taken to insure privacy and confidentiality such as putting code number for each patient

The sample was recruited according to the following criteria:

- age from 20 to less than 60 years
- inpatients
- chronically ill for more than 6 months
- both sex

Tools for Data Collection
a- Socio-demographic/ medical data sheet
b- Insight Scale
This scale was developed by (Birchwood et al, 1994) and was used to determine the degree to which schizophrenic patients are aware of their illness, their need of treatment and their ability to re-lable experiences. This scale consists of 8 items, each item was scored on a 3-point scale (agree, disagree, and unsure).

c- Hogan Drug Attitude Inventory Scale
This scale was developed by (Hogan & Awad, 1992) to measure subjective response to medication in an effort to obtain a more complete understanding of factors influencing medication compliance. The scale has 15 items that were scored as true and 15 items that were scored as false in the case a fully compliant response. A correct answer to these items was scored as plus 1. An incorrect answer was scored as minus 1. The total score is the sum of pluses and minuses. A positive total score means a compliant response. A negative total score means a non-compliant response. Zero total score means partial compliant response.

Procedure
After official permission from the hospital director, the researcher contacted to the head nurse to explain the purpose and procedure of the study and determine the available time to connect with the patients and demonstrate the educational session. The study sample was selected randomly, then the sample assigned to 20 patients (experimental group) and 20 patients (control group). Experimental group was informed that they will have educating sessions in addition to group activities, while the control group will have the routine activity. Data were collected through interviewing with experimental and control groups at pre, post, and follow up of the program.

- Both groups (control and experimental) were interviewed individually to collect pre-assessment data related to socio-demographic , insight and drug attitude scales for 2 weeks, twice /week.

- 12 sessions, each session was 45 minutes. for 12 weeks one time /week. were provided for the experimental group only with the total hours 9. Each session had its own title and objective according to its content.

- Both groups (control and experimental) were interviewed individually to collect post-assessment data related to insight and drug attitude scales for 2 weeks twice /week.

-Both groups (control and experimental) were departed for 4 weeks.

- Both groups (control and experimental) were interviewed individually to collect follow up-assessment data related to insight and drug attitude scales for 2 weeks twice /week.

Data collection lasted for 22 weeks which started from the beginning of May, till the 10/ 2009

3. Results
Table (1) shows that, 11 (55.0%) from study and 15 (75.0%) from control group were admitted to hospital for more than 3 times, 9 (45.0%) from study and 11 (55.0%) from control were from 20 to less than 30 years old, 9 (45.0%) from study group were diagnosed as residual schizophrenia and 8 (40.0%) from control group were diagnosed as paranoid schizophrenia. The mean duration of illness of the study group is 16.8 years while in control group 13.2 years with standard deviation 10.9 and 9.2 respectively.

Table (2) This table shows that, the difference between patients' attitude toward medications program in study and control groups at pre, post, and follow-up didn't show statistically significant difference (p=0.45 and 0.69 respectively).

Table (3) shows no statistically significant difference between " ability to re-lable experience in the study group and control group at pre, post, and at follow-up(p=0.4) (p=0.09) (p=0.056) respectively.

Regards to "awareness of illness", at pre program there was no statistically significant differences between study group and control group (p=0.5). At post program, there was a highly statistically significant differences between study group and control group (p=0.008). At follow-up there was no statistically significant differences between study group and control group (p=0.12).

Regarding "insight into need of treatment" , there was no statistically significant difference between study and control group at pre, post, and at follow-up(p=0.50) (p=0.114) (p=0.11) respectively.

Generally total insight at preprogram didn't show statistically significant difference between study and control group (p=1.0). However, at post and follow-up program the difference between study and control groups was statistically significant p=0.04 and 0.007respectively.

Table (4) revealed that, total insight and total patients' attitude toward medications were not correlated significantly with number of hospital admission at pre, post, and follow-up program (p>0.05).

Table (5) shows that, total insight and total patients' attitude toward medications were not correlated significantly with duration of illness at pre, post, and follow-up program (p>0.05).

Table (6) shows that, total insight and total patients' attitude toward medications were not correlated significantly with age at onset of the disease at pre, post, and follow-up program (p>0.05).

Table (7) revealed that, patients' attitude toward medications didn't correlate significantly with insight at pre, post, and follow-up program (p>0.05).

4. Discussion
Medical Characteristics of Patients in Study and Control Groups.

Nearly half of patients in study group and more than half of patients in control group, age of onset of disease ranged from 20 to less than 30 years. This finding indicates no statistical significant difference between study and control groups. This may be due to the age at onset of schizophrenia usually occurs early in life – in adolescence or young adulthood and the disease is a progressive and disabling condition. This result is consistent with Boyed (2002) who found that, the schizophrenia begins earlier than the age of 25 years.

The findings of the present study revealed that total insight and total patients' attitude toward medications didn't correlated significantly with age at onset of the disease at pre, post, and follow-up program. This result is consistent with Mintz et al.,(2003) who found no significant correlation between lack of insight and age at illness onset.

In relation to duration of illness, there was no statistical significant difference between study and control groups. This result contradicted with El-Nady(2003) who found a statistical significant differences between the control and experimental groups in relation to the duration of illness. In this respect, Osman (1990) reported that, long stay of chronic patients (duration of illness 15 years or more) had more frequency and initiations of interactions. This may be due to the fact that patients might have achieved a state of institutionalism in which they became so adapted on the life within the hospital and found their own contacted and relationships within this system. Osman added that because of the lack of community mental health services in Egypt, psychiatric hospitals tend to keep schizophrenic patients especially the chronic ones for long periods.

The findings of the current study revealed that total insight and total patients' attitude toward medications didn't correlate significantly with duration of illness. This result is consistent with Mintz et al.,(2003) who found no significant correlation between lack of insight and duration of illness. Also, McEvoy et al., (1989) failed to identify any relationship between the degree of insight and severity of psychopathology. Further, the changes in insight scores during hospitalization did not vary consistently with changes in acute psychopathology. The only significant finding was that there was an overall relationship between insight and clinical outcome in schizophrenia. The authors concluded that the deficiency in insight could not be explained on the basis of psychopathology. David et al., (1992) also reported a moderate correlation between insight and severity of illness in schizophrenics in a subsequent study. Amador et al., (1993) identified moderate correlation between insight and course of illness.

Concerning number of hospital admission, the current results found that, more than half of patients in study group and three quarters of patients in control group were admitted to hospital for more than three times in their life. There was no any statistical significant difference between two groups. This result indicated that the schizophrenia is episodic and patients' ability to adjust with a disease stressors is decreased. Also, this result indicates that patients

were noncompliant with medication regimens and lack of insight. This might be due to the lack of social support, the rejection of the patient by family and the patients' dissatisfaction with relations which are significant predictors of relapse and re-hospitalization. In addition side effects of medications which were prescribed for the treatment of schizophrenia are often unpleasant for the patient and are likely to decrease compliance with doctors' recommendations and consequently re-hospitalization.

This result is consistent with El-Kayal (2002) who pointed out that, the majority of her studied sample was previously admitted more than five times, due to lack of family support which increases relapses among those patients. This result also agreed with Elnady (2003) who found no significant statistical difference between the control and the experimental groups regarding to number of hospitalization.

However, this result is inconsistent with Stuart et al., (2001)who found a significant difference between cases and controls regarding to number of relapses and hospitalizations where patients in the case group experienced less relapses and even less hospitalization than in the control group.

The findings of the current study revealed that, total insight and total patients' attitude toward medications didn't correlated significantly with number of hospital admission. This result is consistent with Mintz et al.,(2003) who stated that, no significant correlation between lack of insight and the number of hospitalization. In contrary, Amador et al., (1993) identified moderate correlation between insight and number of hospitalization and better insight among patients with more hospitalization.

The lack of statistical significant difference in medical characteristics between study and control group means that all of these factors are recessive that didn't affect the intervention program.

Comparison between Control and Study Group In Relation to Patients' Attitude toward Medications and Insight at Different Study Periods
The finding of the present study revealed that there was no statistical significant difference between study and control group at pre, post, and follow-up program regards to patients' attitude toward medications.

This result may be due to sample selection from inpatient units and thus compliance increased as the patients compelled to take medications. Also, decreased size of the sample and increased percent of compliance at pre program lead to lack of significant difference. Also, this result can be interpreted as psycho-educational interventions focused primarily on dissemination of knowledge about schizophrenia, treatment, and medication without focusing on attitudinal and behavioral change to achieve medication adherence.

This result is consistent with Kempt et al., (1996) who found that, improvement of attitude based on gain knowledge didn't lead to change in attitude. Also, Gilmer et al., (2004) reported a lack of significant differences in compliance between the study and control group. However Glynn et al.,(2002)reported significant group differences in compliance immediately after the intervention but a lack of difference at follow-up one year later.

These results disagree with Kempt et al., (1996) who found a significant improvement in compliance and attitude towards psychotropic medication as compared to controls. Also, Lacro et al., (2002) tested compliance therapy after a combination of cognitive approaches and motivational interviewing to enhance medication compliance and formed sustained gains in medication compliance over 18 months after hospital discharge and better measurement of insight and attitudes towards medication.

On the other hand Bak et al., (2003) noted that hospitalized psychotic inpatients tended to focus on secondary benefits of medication, such as keeping them out of the hospital as well as allowing them to work and maintain significant relationships. The more important of these benefits were the adherent of the patient to treatment. One major long-term problem was coined by Weiden et al., (2004) as an awakening experience following a patient's first severe psychotic episode, marked improvement may occur. However, there may then be a realization by the patient that there is something wrong with him or her. This may lead to a post-psychotic depression whereby the patient may finally understand that he or she suffers from a severe and debilitating illness. The consequences of these realizations may include suicidal ideation or behavior. Such an awakening may lead to a denial and outright refusal to take antipsychotics.

Among insight into illness, "ability to re-lable experience", represented about two thirds of patients in study group and four fifths of patients in control group and the difference didn't prove any statistical significance at pre program. At post program, more than three quarters of patients in study group and half patients in control group were able to re-lable experience. Where as, at follow-up (after 2 months) program, more than four fifths of patients in study group and nearly half of patients in control group were able to reliable experience and didn't show statistical significant difference. Generally "ability to re-lable experience" didn't show statistical significant

difference at pre, post, and follow-up program in study and control group.

Regarding awareness of illness two fifths of patients in study group and one quarter of patients in control group were aware to their illness at pre program. The difference didn't prove any statistically significant difference. At post program, more than two thirds of patients in study group and more than one quarter of patients in control group were aware to their illness. There was highly statistically significant difference between two groups. This may be due to increased percent of awareness of illness in study group as a result to educational program. At follow-up program two thirds of patients in study group and more than one third of patients in control group were aware to their illness. The difference didn't prove any statistical significant difference.

Concerning "insight into the need of treatment", the current study revealed that, there was no statistical significant difference between study and control group at pre, post, and follow-up program

This result can be interpreted as many patients have cognitive distortions concerning medication use. They often feel there is something wrong with them if they need medication (they are psychological misfits), they may feel if they have to take medication, they are morally weak and the medication is simply a crutch and doesn't do anything for the life problems they need to deal with. Patients may also worry about the medication controlling their thoughts and actions. This result is consistent with Lacro et al., (2002) who explored reasons for medication non adherence. For the patient, the meaning of taking medication determines his or her attitude in taking such medication. If the patient perceives that the medication can help, he or she will take it.

Total insight didn't statistically significantly differ between study and control group at pre, post, and follow-up program. However, at post program and follow-up the difference between two groups was statistically significant. Also, the current study revealed that, total insight among pre, post and follow-up program in study group was statistically significantly different. However, in control group, there was no statistical significant difference among pre, post, and follow-up program regards to total insight. This result can be interpreted as a result of educational program that were concerned of improving insight by educating patients about schizophrenia and accepting their mental disorder. These results go on line with Macpherson et al., (1996) and Kempt et al., (1996) who tested compliance therapy, a combination of cognitive

approaches and motivational interviewing to enhance medication adherence. Intervention sessions encouraged patients to articulate their beliefs and ambivalence about antipsychotic medication while focusing on adaptive behaviors and the importance of staying well. Therapists helped patients connect indirect benefits of medication, such as improved personal relations, medication adherence and symptom reduction. In patients who received compliance therapy demonstrated sustained gains in medication adherence over 18 months after hospital discharge and better measures of insight and attitude toward treatment.

The finding of the present study revealed that Patients' attitude toward medications didn't correlated significantly with insight at pre, post, and follow-up program. These results go on line with Martha et al.,(2002) who found no significant differences between the three groups of patients in previous adherence to prescribed medication regimens, symptoms, functional level, or insight into illness .He also added that attitudes may be more positive in patients who recognize therapeutic drug effects .

On the other hand Freudenreich et at., (2004) concluded that greater insight into illness, and better social functioning would be associated with better attitudes toward psychiatric medication.

5. Conclusion

Findings of this study proved the effectiveness of the constructed educational program on schizophrenic patients' insight. The educational program has no effect on patients' attitude toward medications .The total insight and total attitude toward medications were not correlated significantly with number of hospital admission, duration of illness, age at onset of the disease. Patients' attitude toward medications didn't correlate significantly with insight at pre, post, and follow-up program.

6. Recommendation

- Psychiatric nurses need to conduct educational sessions periodically for the schizophrenic patients, a matter which increases their insight into illness.
- Further study should be done to study the effect of educational program on insight and attitudes toward medications using a large sample of schizophrenics and long duration of educational program.
- Further study should be done on schizophrenics who are treated with atypical antipsychotics, typical antipsychotics, or mixed medication regimens to assess the insight into illness and attitude toward medication

Total number of the study groups in the study periods

	Study group	Control group
Pre program	20	20
Post program	19	17
Follow-up	18	17

Table 1: Medical characteristics of patients in the study groups

Items	Study group (No=20) No %	Control group (No=20) No %	X2 test	P- value
Age at onset of the disease < 20 years 20-<30 30- <40 40 - <50 50 or more	3 15.0 9 45.0 4 20.0 3 15.0 1 5.0	0 0.0 11 55.0 7 35.0 2 10.0 0 0.0	5.21	0.26
Diagnosis -Residual schizophrenia -Disorganized -Undifferentiated -Paranoid -catatonic	9 45.0 1 5.0 7 35.0 3 15.0 0 0.0	7 35.0 1 5.0 4 20.0 8 40.0 0 0.0	3.34	0.34
Duration of illness (years) (x ± SD)	16.85± 10.9	13.20 ± 9.2	t-test 1.14	0.26
No of hospital admission Once Twice Three times More than three	2 10.0 2 10.0 5 25.0 11 55.0	0 0.0 1 5.0 4 20.0 15 75.0	3.06	0.38

Table 2: Frequency distribution of patients' attitudes toward medications at pre, post, and Follow-up in the study groups

patients' attitudes toward medications	Study group		Control group		X2	p-value
	No	%	No	%		
Pre program: -Noncompliant - Partial compliant -Compliant	5 0 15	25.0 0.0 75.0	8 2 10	40.0 10.0 50.0	3.6	0.11
Post program: Noncompliant -Compliant	3 16	15.8 84.2	7 10	41.2 58.8	Fisher exact test	0.13
Follow-up: Noncompliant -Compliant	3 15	16.7 83.3	6 11	35.3 64.7	Fisher exact test	0.26
(p-value)	0.45		0.69			

Table 3a: Frequency distribution of insight into illness at pre, post, and follow-up in the study groups.

of insight into illness	Study group		Control group		X2	p- value
	No	%	No	%		
Ability to relable experience:						
Pre program						
- unable	7	35.0	4	20.0	1.12	0.4
- able	13	65.0	16	80.0		
Post program						
- unable	4	21.1	8	47.1	2.73	0.09
- able	15	78.7	9	52.9		
Follow-up						
- unable	3	16.7	8	47.1	3.74	0.056
- able	15	83.3	9	52.9		
(p-value)	0.31		0.12			
Awareness of illness						
Pre program						
- unaware	12	60.0	15	75.0	1.02	0.50
- aware	8	40.0	5	25.0		
Post program						
- unaware	5	26.3	12	70.6	7.05	0.008**
- aware	14	73.7	5	29.4		
Follow-up						
- unaware	7	38.9	11	64.7	2.33	0.12
- aware	11	61.1	6	35.3		
(p-value)	0.12		0.24			

(*)statistically significant at P<0.05 (**) highly statistically significant at P<0.01

Table 3b: Frequency distribution of insight into illness at pre, post, and follow-up in the study groups (con).

Of insight into illness	Study group		Control group		X2	p- value
	No	%	No	%		
Insight into need of treatment						
Pre program						
- Lack of Insight	5	25.0	8	40.0	1.02	0.50
- Insightful	15	75.0	12	60.0		
Post program						
- Lack of Insight	2	10.5	6	35.3		0.114
- Insightful	17	89.5	11	64.7		
Follow-up						
- Lack of Insight	2	11.1	6	35.3		
- Insightful	16	88.9	11	64.7		0.11
(p-value)	0.24		0.71			
Total of insight scale						
Pre program						
- Lack of insight	8	40.0	8	40.0	0.000	
- Insightful	12	60.0	12	60.0		1.00
Post program						
- Lack of insight	4	21.1	8	47.1	6.15	
- Insightful	15	78.9	9	52.9		0.04*
Follow-up						
- Lack of insight	1	9.1	8	47.1		
- Insightful	17	90.9	9	52.9		0.007**
(p-value)	0.050*		0.95			

(*) statistically significant at P<0.05   (**) highly statistically significant at P<0.01

Table 4: Correlation between number of hospital admission and insight into illness and patients' attitudes toward medications in the study groups at pre, post and follow-up

Items	Number of hospital admission		
	Pre program r (P)	Post program R (P)	Follow-up R (P)
Total insight	0.30 (0.19)	-0.12 (0.60)	-0.36 (0.13)
patients' attitudes toward medications	-0.06 (0.78)	-0.01 (0.95)	-0.35 (0.16)

Table 5: Correlation between duration of illness and insight into illness and patients' attitudes toward medications in the study groups at pre, post and follow-up

Items	Duration of illness		
	Pre program r (P)	Post program R (P)	Follow-up R(P)
Total insight	0.08 (0.73)	-0.11 (0.62)	-0.44 (0.06)
patients' attitudes toward medications	-0.10 (0.67)	-0.14 (0.55)	-0.23 (0.35)

Table 6: Correlation between age at onset of the disease and insight into illness and patients' attitudes toward medications in the study groups at pre, post and follow-up

Items	Age at onset of the disease		
	Pre program r (P)	Post program R (P)	Follow-up R (P)
Total insight	-0.26 (0.25)	0.04 (0.86)	0.24 (0.33)
patients' attitudes toward medications	0.25 (0.28)	-0.01 (0.95)	0.14 (0.58)

Table 7: Correlation between insight into illness and patients' attitudes toward medications in the study groups at pre, post, and follow-up

Items	Insight		
	Pre program r (p)	Post program r (p)	Follow-up r(p)
patients' attitudes toward medications	-0.23 (0.33)	0.35 (0.13)	0.33 (0.17)

(*) statistically significant at $P<0.05$

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