

Training Program to Improve Knowledge and Performance for Nurses Working with Psychiatric Patients

Rehab Fathy Abdel Hady Ghaith⁽¹⁾; Sorayia Ramadan Abd El-Fattah⁽²⁾ Youser Mohammed Elmasri⁽³⁾ Manal Mohamed El-Kayal⁽⁴⁾

(1) Department of Psychiatric and Mental Health Nursing, Faculty of Nursing, Zagazig University.

(2) Department of Psychiatric/Mental Health Nursing, Faculty of Nursing Ain Shams University.

(3) Department of Psychiatric and Mental Health Nursing, Faculty of Nursing, Mansoura University.

(4) Department of Psychiatric and Mental Health Nursing, Faculty of Nursing, Zagazig University.

manalelk2005@yahoo.com

Abstract: Schizophrenia is the most common of the severe mental illnesses. Working with chronic and severely mentally ill people is challenging. The aim of this study is to investigate the effect of training program on knowledge and performance of nurses working with psychiatric patients. A quasi-experimental study was conducted at Benha Governmental Hospital for Mental Health on a sample of 60 nurses working with schizophrenic patients. Data were collected using a knowledge questionnaire and a performance checklist before and after implementation of a training program. The results revealed that psychiatric nurses' knowledge about schizophrenia is deficient, while they have better knowledge of their role with psychiatric patients. Also, their performance seems to be more authoritative rather than considering patients' views. The implementation of the training program is effective in improving their knowledge and their performance, which showed general decreases in the scores of communicating own perception and increases in the scores of changing patient view. The changes in nurses' post-program knowledge and performance scores are influenced by some of their personal characteristics as age, gender, qualification, experience years, previous work in psychiatric hospital, and feeling satisfied with work in psychiatric nursing. Hence, the program achieved its goal of improving nurses' knowledge and performance. The study recommends adoption of the developed program and further research to assess the effectiveness of combined nursing and patients family interventions in the management of psychiatric patients.

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1. Introduction

Schizophrenia is one of the most complex and puzzling diseases to affect mankind. It is the most common of the severe mental illnesses (psychoses) with an estimated prevalence of 0.5-1% in the general population (*Hirsch and Weinberger, 2003*). It is a challenging psychiatric disorder; both on the clinical and health care level, for the patient who suffers it, for his/her family and for those responsible for his/her care. 50% of long-term psychiatric patients in mental health hospitals are schizophrenic (*Bernardo et al., 2007*).

Working with chronic and severely mentally ill people is challenging and those working with this patient group can have a significant impact on the mental status of their patients and to cope with the variety of behavior including verbal and physical abuse, lack of motivation and self neglect. Aggression, under-activity and lack of spontaneous interaction by patients are areas of greatest dissatisfaction for staff (*Willets and Leff, 2003*).

Nursing staff is in need for continuous training and for applying this training to improve the standard of patient care. Educational program is considered to

be an important mean to provide nurses with theoretical and technical information needed to acquire skills and competencies necessary to continually improve nursing practice. It helps them to accept responsibility for their professional development. Any educational program has to be designed to assist health worker to maintain and improve his/her competencies and to acquire new knowledge (*Teleb, 2001*).

Training programs in psychosocial interventions (PSI) are not a new innovation and while the early courses were developed for nurses they soon became multidisciplinary (*Redhead et al., 2011*). Evaluations of these training programs have shown that for qualified mental health professionals they result in increased knowledge about psychosis, improved attitudes towards service users and increased confidence in practice (*Forrest et al., 2004*). In addition, students attending PSI training undertake clinical work with better outcomes of care including improvements in psychotic symptoms and social functioning (*Bradshaw et al., 2007*).

Aim of the Study

The aim of this study was to investigate the effect of training program on knowledge and performance of nurses working with psychiatric patients.

Research hypothesis:

Implementation of training program for nurses working with psychiatric patients will improve their knowledge and performance.

2. Subjects and Methods

In this study, psychiatric patients are limited to schizophrenic patients.

Research design

A quasi-experimental design was selected for the current study, with pre/post assessment of the effect of the training program on the knowledge and performance of nurses working with schizophrenic patients.

Setting

The study was conducted at Benha Governmental Hospital for Mental Health. It is one of the largest governmental hospitals providing free and paid care for addicts, and acute chronically mentally ill patients at Benha city, El-Kalubia governorate.

Sample

A sample of convenience of 60 nurses working in the previously mentioned settings, who consented to participate in the study. They were recruited regardless age, sex, or nursing qualification levels.

Tools of data collection

Knowledge questionnaire (Appendix I):

Knowledge about schizophrenia was measured using an adapted version of the Multiple Choice Questionnaire (MCQ) developed by the department of psychology, Institute of Psychiatry (*Willetts & Leff, 2003*). Since this questionnaire was too short and not comprehensive to be able to achieve the study objectives, the researcher built on it based on literature review. The final questionnaire included the following parts:

Part I: Nurses characteristics data form: developed by the researcher to collect data about nurses' socio-demographic characteristics.

Part II: Knowledge about schizophrenia: developed by the researcher, and included a group of questions used to assess nurses' knowledge about schizophrenia and Nurses' knowledge about their role with schizophrenic patient.

This part of the questionnaire consisted of 136 questions in two different forms. The first form included True/False statements, while the second form included open-ended questions.

Scoring:

For the True/False questions, a correct response was scored 1 and the incorrect zero. For the open-

ended questions, the researcher gave a score according to a model answer. For each area of knowledge, the scores of the items were summed-up and the total divided by the number of the items, giving a mean score for the part. These scores were converted into a percent score. Knowledge was considered satisfactory if the percent score was 60% or more and unsatisfactory if less than 60%.

Management of Schizophrenic Patients Checklist (Appendix II): This tool was developed by *Berkowitz and Heintz (1984)* to measure the strategies used in dealing with symptoms and difficult behaviors in mental illness. The tool is a list of 35 problematic situations relating to patients with schizophrenia categorized into five main domains of schizophrenic problems:

- *First domain:* Positive symptoms (delusions and hallucinations)
- *Second domain:* Negative symptoms (withdrawal and lack of energy)
- *Third domain:* Problems of control (situations in which the patient has to be restrained, e.g. violent behaviors)
- *Fourth domain:* Reactions of despair (suicide and helplessness)
- *Fifth domain:* Nurse's own reactions (feelings of anger, irritability and helplessness)
- For each of these questions, the responding nurse has to describe briefly how best she/he would deal with each situation. There are four possible response categories of strategies as follows:
 - Category A: Confirming the patient's view of him/herself.
 - Category B: Communicating nurse's own perspective.
 - Category C: change in an attempt to bring A and B.
 - Category D (Resources).

As the scores of category A increase, this indicates that staff were encouraged to listen to patients' views and show empathy and understanding.

As the scores category B increase this indicate that staff used judgmental critical hostile approach, which leads to criticism of the client.

As the scores of category C increase this indicates that staff were able to assimilate knowledge about specific skills and were equipped to put them into practice for enhancing their performance. One of the most important aims of the training program had therefore been achieved. The more use of this category means that staff used more strategies involving an attempts to effect change when dealing with problematic situations within their hostel settings or on the ward.

As the scores of category D increase this indicates that participant nurses were more able to accept their own limitations and those of clients they

worked with, and were more able to use the resource facilities to cope with different management problems.

Pilot Study

A pilot study was carried out on 10 psychiatric nurses in order to test the applicability of the tools and the clarity of the included questions, as well as to estimate the average time needed to fill in the sheets. The nurses who shared in the pilot study were not included in the main study sample.

Administrative Design:

Official letters to conduct the study were addressed from the Dean of the Faculty of Nursing Zagazig University to the Director of Banha Governmental Hospital for Mental Health to conduct the study and to facilitate data collection.

Ethical considerations

Prior to the initial interview, explanations of the nature and the aim of the study were provided to the nurses and their oral consent to participate was secured. They were given the options to refuse or to participate, and they were assured that the information would be utilized confidentially and used for the research purpose only. They were informed about their right to withdraw at any time without giving reason. The study procedures could not have any harmful effect on participants.

Statistical Design:

Data entry and statistical analysis were done using SPSS 16.0 statistical software package. Data were presented using descriptive statistics in the form of frequencies and percentages for qualitative variables, and means and standard deviations for quantitative variables. Quantitative continuous data were compared using Student t-test in case of comparisons between two groups. When normal distribution of the data could not be assumed, the non-parametric Mann-Whitney test was used instead of Student t-test. Qualitative categorical variables were compared using chi-square test. Whenever the expected values in one or more of the cells in a 2x2 tables was less than 5, Fisher exact test was used instead. Statistical significance was considered at p -value <0.05 .

Method:

The researcher started to prepare a schedule for program implementation. The fieldwork was executed in five months. It started at the beginning February 2011 and was completed by the end of June 2011. The researcher started by introducing herself to the nurses and explained briefly to them the aim of the study, and reassured them that the information obtained is strictly confidential and would not be used for any purposes other than research. The researcher clarified the method of filling in the tools. The time consumed for answering the study questionnaire ranged from 50-60

minutes for each nurse: 35-40 minutes for filling in the knowledge assessment sheet, and 15-20 minutes for the management of schizophrenic patient checklist. This technique was repeated for each nurse in the six groups of nurses included in the study sample. Based on the results obtained from the assessment phase, the researcher designed and set the training program contents according to the identified nurses' needs.

The program contents were implemented in the form of sessions. The participants were divided into six groups of ten nurses each. The sessions were administered once/week for each study group. The total number of sessions was 16 for each group. These sessions were held on Sundays, Mondays and Wednesdays, from 9.30 to 10.30 AM for the first group, and from 11Am to 12 PM for the second group. This phase lasted for 16 weeks.

3.Results:

Table 1 shows that the age of the studied nurses ranged between 20 and 47 years, with a mean of 31.3 ± 7.0 years. More than half of them (60.0%) were females, and the majority (86.7%) were married. As for their nursing qualification, slightly more than two thirds had a diploma, while only less than one-third had a bachelor degree in nursing (30.0%). Slightly more than half of the nurses had ten or more years of experience in nursing (53.3%), and 65% of them had five or more years of experience in psychiatric nursing.

Figure 1 demonstrates that half of the nurses (50.0%) had previously worked in psychiatric hospitals. It also shows that less than half of them had previous training in psychiatric nursing (41.7%).

Concerning satisfaction with work in psychiatric nursing, Figure 2 illustrates that the majority of studied nurses (80.0%) were satisfied. However, only 36.7% of them felt the needs for work are available.

As displayed in Table 2, nurses' knowledge about schizophrenia demonstrated statistically significant improvement at the post program phase. The percentages of satisfactory knowledge at the pre-program phase were generally low, especially regarding prognosis (0.0%), and negative symptoms (3.3%). The percentages at the post-program phase ranged between 78.4% for prognosis to 100.0% for symptoms and signs.

As regards nurses' knowledge about their role in schizophrenia, Table 3 shows improvements in all the tested areas. These reached statistical significance except for knowledge about prevention of patient violence, which increased from 98.3% to 100.0%, but with no statistical significance.

As for nurses' total knowledge about schizophrenia, Figure 3 indicates a statistically significant improvement after program

implementation ($p<0.001$). Before the program, only four nurses (6.7%) had total satisfactory knowledge. This increased to 100% at the post-program phase.

Table 4 describes the differences between pre and post-program phases in total nurses' performance scores. It shows statistically significant decreases in the scores of communicating own perception from 14.2 to 5.0 ($p<0.001$), and increases in the scores of changing patient view from 7.7 to 16.5 ($p<0.001$). No statistically significant changes could be revealed in the scores of confirming patient view ($p=0.97$), or using resources ($p=0.91$).

As regards the relation between nurses' scores in performance categories and their total knowledge scores at the pre-program stage, Table 5 indicates no statistically significant associations.

Table 1. Socio-demographic characteristics of nurses in the study sample (n=60)

	Frequency	Percent
Age (years):		
<30	25	41.7
30+	35	58.3
Range	20-47	
Mean±SD	31.3±7.0	
Sex:		
Male	24	40.0
Female	36	60.0
Marital status:		
Single	7	11.7
Married	52	86.7
Divorced/widow	1	1.7
Nursing qualification:		
Secondary diploma	40	66.7
Technical institute diploma	2	3.3
Bachelor	18	30.0
Experience in nursing (years):		
<10	28	46.7
10+	32	53.3
Range	<1-24	
Mean±SD	11.6±7.8	
Experience in psychiatric nursing (years):		
<5	21	35.0
5+	39	65.0
Range	<1-24	
Mean±SD	9.8±7.5	

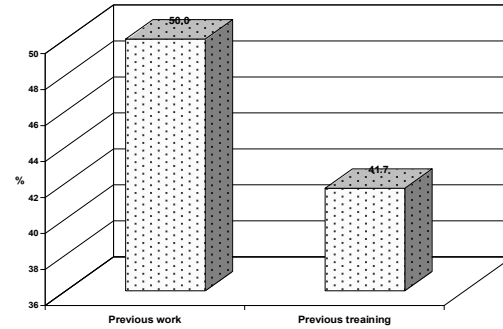


Figure 1: Previous work and training in psychiatric nursing among nurses in the study sample (n=60)

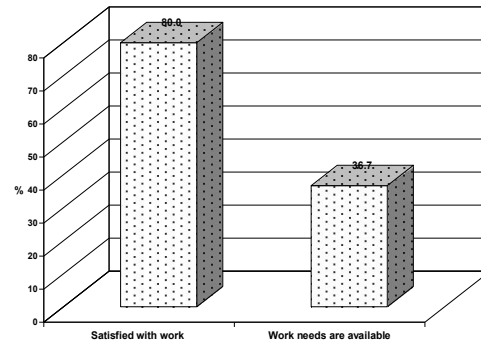


Figure 2: Satisfaction with work in psychiatric nursing and availability of work needs among nurses in the study sample (n=60)

Table 2. Comparison of nurses' pre-post-program scores of knowledge about schizophrenia

Satisfactory knowledge (60%+) about schizophrenia	Time				X ² Test	p-value
	Pre (n=60)		Post (n=51)			
	No.	%	No.	%		
Definition	13	21.7	49	96.1	61.91	<0.001*
Prevalence	27	45.0	49	96.1	33.31	<0.001*
Etiology	41	68.3	47	92.2	9.52	0.002*
Symptoms/signs	13	21.7	51	100.0	69.29	<0.001*
Positive symptoms	14	23.3	45	88.2	46.63	<0.001*
Negative symptoms	2	3.3	46	90.2	84.75	<0.001*
Management	17	28.3	48	94.1	49.16	<0.001*
Prognosis	0	0.0	40	78.4	73.57	<0.001*

(*) Statistically significant at $p<0.05$

Table 3. Comparison of nurses' pre-post-program scores of knowledge about nurse role in schizophrenia

Satisfactory knowledge (60%+) about nurse role in schizophrenia	Time				X ² Test	p-value
	Pre (n=60)		Post (n=51)			
	No.	%	No.	%		
General care	43	71.7	50	98.0	14.11	<0.001*
Follow-up	51	85.0	50	98.0	Fisher	0.02*
Prevention of patient violence	59	98.3	51	100.0	Fisher	1.00
Dealing with patient violence	47	78.3	49	96.1	7.43	0.006*
Communication	11	18.3	51	100.0	74.57	<0.001*

(*) Statistically significant at $p<0.05$

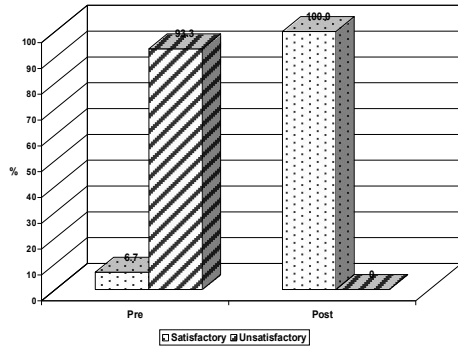


Figure 3: Comparison of nurses' pre-post-program scores of total knowledge

Table 4. Comparison of nurses' pre-post-program scores of performance with schizophrenia patients

Total	Time		Mann Whitney Test	p-value
	Pre (n=60)	Post (n=51)		
Confirm patient view: Mean±SD Median	4.6±1.9 4.00	5.0±3.0 5.00	0.00	0.97
Communicate own perception: Mean±SD Median	14.2±3.5 14.00	5.0±1.7 5.00	82.61	<0.001*
Change patient view: Mean±SD Median	7.7±2.3 8.00	16.5±4.1 17.00	76.55	<0.001*
Use resources: Mean±SD Median	5.4±3.1 6.00	5.6±2.4 5.00	0.01	0.91

(*) Statistically significant at $p < 0.05$

Table 5. Relation between nurses' pre-program knowledge and performance

	Knowledge		Mann Whitney Test	p-value
	Satisfactory (n=4)	Unsatisfactory (n=56)		
Confirm patient view: Mean±SD Median	4.8±2.4 4.00	4.7±1.9 4.00	0.00	0.95
Communicate own perception: Mean±SD Median	16.8±6.2 17.50	14.0±3.3 14.00	0.52	0.47
Change patient view: Mean±SD Median	6.0±3.8 5.00	7.8±2.2 8.00	1.11	0.29
Use resources: Mean±SD Median	4.5±4.1 4.00	5.5±3.1 6.00	0.40	0.53

4. Discussion:

The study was carried out on a group of 60 nurses working with psychiatric patients. There were more female than male nurses in study sample, which reflects the known preponderance of female gender in this profession noticed by *Stott (2007)* who mentioned that nursing is among a few other professions, in which positions are occupied by women; the word of nurse is deemed to refer to a female and not to a male. In the same context, many previous studies showed the same phenomenon (*Aly, 2008; Ebrahim, 2008; Mohammed, 2012*).

Only less than one-third of the current study nurses had a bachelor degree in nursing. Their experience in psychiatric nursing was very variable with a very wide range of about 25 years. Moreover, less than half of them had previous training in psychiatric nursing. These characteristics, as also shown in previous studies (*Ibrahim, 2009; Fahmy, 2010*), point to a real need for training and continuing nursing education, especially when the work is in a specialty like psychiatry, which has special working conditions with a very peculiar type of patients.

The finding of the present study showed that the majority of the studied nurses were satisfied with psychiatric nursing but only more than one third of them felt the needs for work are available. This is explained by that nurses do not have the chance to work in close collaboration with psychiatrists; they do not participate in any discussion and are not asked for any report about patients. This ultimately leads to the fact that nurses are satisfied with their little knowledge. Moreover, not all nurses see the need for improvement and self actualization and some may be contented with what they have and what they are. In addition, the feeling of unavailability of work needs among nurses might be attributed to the general shortage and lack of necessary needs that characterize most governmental hospitals in Egypt. However, *Aly (2008)* found that the majority of nurses were not satisfied by their work as psychiatric nurses and all of them agreed that the treatment and nursing care needed for patients were not available. As well, *Shaw (2001)* noted that psychiatric nursing may be at disadvantage compared to other nursing specialties when it comes to recruitment. This view may explain the results of some studies where the majority of nurses were not satisfied by their job.

As expected, given the foregoing characteristics of the present study nurses, their knowledge about schizophrenia was very deficient before implementation of the training program. They knew almost nothing about the negative symptoms or the prognosis of the disease, and very few about its management. This deficiency of knowledge was universal among them regardless their qualification or

experience, which might be explained by the extremely low levels of such knowledge. The finding is in congruence with *James (2005)* who reported lack of correct information about the treatment of schizophrenia, and clarified that this misinformation among nurses is likely to lead to inappropriate and poor quality practice.

The current study nurses had also a lack of correct knowledge about the etiology of schizophrenia before the training program. A similar finding was demonstrated in an Italian study in mental health services (*Magliano et al., 2004*). The factors most frequently mentioned by nurses among the causes of schizophrenia were heredity, stress and family conflicts. Their views were different from those of patients' relatives as well as psychiatrists. On the same line, a study investigating nurses' knowledge of mental illness in 13 community clinics in the Western Province of South Africa found that the majority (94%) were not able to correctly diagnose the disorders presented (*Dirwayi, 2002*). The author considered the findings as alarming given that psychiatrically trained nurses are widely regarded as the best equipped at a primary care level to address mental health illiteracy.

According to the present study findings, nurses' pre-intervention knowledge about their role in schizophrenia turned to be much better compared with their knowledge about the disease itself. This was most evident in the area of prevention of patient violence, which was satisfactorily known by all except one nurse. The finding is quite plausible since this area of knowledge relates to their day-to-day practice, i.e. a kind of practical applied knowledge that is often gained by experience and accumulates over the years of work rather in classroom study.

In agreement with the foregoing present study findings, *Chen et al. (2005)* showed that nurses had good knowledge about the most frequent methods of management of aggression including the isolation rooms, medications, and physical restraints. The authors considered this high level of knowledge about management of patient's violence to be the product of their recall of the most threatening aggression by patients. They added that the need for education and knowledge of aggression and psychological support are necessary for nurses to cope with aggressive incidents. Specifically, these needs for education and knowledge can be stressed to reduce the anxiety of psychiatric nurses.

The implementation of the training program to the nurses of the present study led to significant improvements at the post program phase. This was more evident in their knowledge about schizophrenia compared with their knowledge about their role as nurses with schizophrenic patients as previously

noted. Hence, all of them had satisfactory total knowledge about schizophrenia at the post-program phase. This indicates that the program was most successful where gaps of knowledge were present. This indicates that any training program should be custom-tailored and must be based on real identified needs of the target attendants, which is in accordance with what has been stated by *Pfammatter et al. (2006)*. Similar significant improvements in knowledge were revealed by *Willets and Leff (2003)* and *Aly (2008)* following implementation of their training program for psychiatric nurses.

The present study demonstrated an improvement in nurses' total performance after implementation of the training program. It demonstrated significant declines in the negative approach of communicating own perception and increases in the positive approach of changing patient view. This indicates that the program was effective and achieved its goal. The effectiveness of the program could be attributed to its content and process. The program content was based on nurses' identified needs and tailored to fill in the gaps in their knowledge and skills. The process was also important in being interactive, based on the principles of adult learning, and with hands-on practical training. This enhanced the acquisition of practical knowledge that can be applied in their daily practice.

In congruence with this proved effectiveness of the current study nurses' training program, *Schenkel (2006)* similarly reported that all staff nurses demonstrated increased positive and therapeutic behaviors and decreased instances of negative behaviors when interacting with patients following a training program. Moreover, staff who disagreed with social learning and behavioral management principles displayed less improvement in negative behaviors from pre- to post-assessment compared to other staff. Similar findings were also reported by *Oostrom and Mierlo (2008)* who found significant improvements that persisted after the training regarding coping with workplace violence', indicating that the training resulted in enduring changes in knowledge and behavior of nurses. The authors concluded that after the training program, participants may have the opportunity to apply the knowledge and behavior they learned in the training in their everyday work situation. This supports our explanation of the value of the process of training and the encouragement of positive and active interactions during the sessions, which are basic in adult learning.

The present study results indicate that nurses have shifted from using judgmental critical hostile strategy, which leads to criticism of the client to the use of other more positive strategies. This indicates that they were able to assimilate knowledge about

specific skills and were equipped to put them into practice for enhancing their performance. Overall, it appears that the training course did serve to provide staff members with new strategies for dealing with problem situations, and made them able to assimilate and consider the use of a wide variety of management skills, familiar and unfamiliar, rather than selecting one or two. This flexible attitude to working with people with mental illness is certainly desirable and is often absent in settings where high expressed emotions (EE) is evident.

Lastly, the present study could not reveal any relation of significance between nurses' scores in performance categories and their total knowledge scores at the pre-program stage. This lack of association might be related to their extremely low scores of knowledge before the intervention program, particularly regarding the disease itself. It might also be related to the effect of attitude on performance regardless the nurse's knowledge. In line with this, *Crisp et al. (2000)* indicated that those with schizophrenia and drug addiction were most likely to be looked at by nurses with a negative attitude, and to be viewed as dangerous and their difficulties self-inflicted.

Conclusions:

The implementation of the training program is effective in improving nurses' knowledge and performance, which showed general decreases in the scores of communicating own perception and increases in the scores of changing patient view. Hence, the program achieved its goal.

Recommendations:

Based on the main study findings, the following recommendations are proposed.

- Similar educational endeavors must be implemented focusing on preparing, organizing and implementing continuing education programs and training courses in various aspects of psychiatric nursing to improve the level of performance for nurses and which in turn is reflected on the way to treat and care for psychiatric patients.
- Nurses should continuously upgrade and update their knowledge and skills in the field of psychiatric nursing by reading the scientific literature and attending seminars, workshops and continuing education programs specializing in this area.
- Further research is needed to assess the effectiveness of combined nursing and patients' family interventions in the management of psychiatric patients.

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