A prexperimental study to assess the effectiveness problem based learning on knowledge and decision making abilities regarding management of psychiatric emergencies among nursing students in selected college of Noida

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Abstract
Psychiatric emergency is stress induced pathogenic response that physically endangers the affected individual or others that significantly disrupts the functional equilibrium of the individual or his/her environment and it requires immediate intervention. Therefore experimental study was conducted to evaluate the effectiveness of problem based learning on knowledge and decision making abilities regarding psychiatric emergencies.
Objectives: 1. To assess and evaluate the level of knowledge and decision-making abilities of students regarding nursing management of psychiatric emergencies. 2. To evaluate the effectiveness of problem-based learning on management of psychiatric emergencies. 3. Evaluate the effectiveness of problem-based learning on management of psychiatric emergencies 4. Find out the association between the mean pretest knowledge score and decision-making abilities of b.sc 4th year nursing students regarding management of psychiatric emergencies and selected socio demographic variables (age, sex, practical experience).
Methods: Quantitative research approach was used. Tool used in the study was structured knowledge questionnaire and decision-making checklist. It has three sections: section A: socio demographic profile which had 3 items. Section B: knowledge questionnaire it contains 25 multiple choice questions. Section C decision making checklist it contains 20 items. Problem based learning was used as interventional module. The study was conducted in Nightingale institute of nursing, Noida on 50 students of b.sc 4th year selected by using convenience sampling technique. The data was analyzed by using descriptive and inferential statistics.
Results: shows that there was significant difference between mean post test scores and pretest scores of b.sc 4th year students in knowledge and decision-making abilities as obtained unpaired 'z' value for knowledge (26.78) was higher than the tabulated value (1.96) at 0.05 level of significance and 'z' value for decision making abilities (38.57) was higher than the tabulated value (1.96) at 0.05 level of significance. The chi square with Yates correction test value showed that there was no significant association between post test score of B.sc 4th year students after receiving the problem based learning with demographic variables as 'p' value obtained is greater than at 0.05 level of significance. The conclusion of the study revealed that problem-based learning was effective in improving the knowledge and decision-making abilities of students regarding management of psychiatric emergencies.

Keywords: problem-based learning, knowledge, decision making abilities, psychiatric emergencies

Introduction
Psychiatric emergency is stress induced pathogenic response that physically or mentally endangers the affected individual or others that significantly disrupts the functional equilibrium of the individual or his/her environment and it requires immediate intervention The most urgent type of psychiatric crises are psychiatric emergencies. They involve sudden sever changes in emotions or behavior which, if unchecked, pose serious threats of physical, emotional or social harm. Examples include suicide attempts, homicide attempts or psychotic decomposition. A psychiatric emergency is a disturbance in thought, mood/or action which causes sudden distress to the individuals or others and or sudden disability thus requiring management [1].

The WHO estimates that each year approximately one million people die from suicide, which represents a global mortality rate of 16 people per 100,000 or one death every 40 seconds. It is predicted that by 2020 the rate of death will increase to one every 20 seconds

Need of The Study
WHO also estimates that about 7.5 per cent Indians suffer from some mental disorder and predicts that by end of this year roughly 20 per cent of India will suffer from mental illness. According to the numbers, 56 million Indians suffer from depression and another 38 million Indians suffer from anxiety disorders.

- Sahoo saddichha, pandey vibha (2011) A study was conducted on behavioural emergencies: would psychiatric emergencies services help in India. A computerized search of Medline, Psychinfo, and Cochrane from 1975 to 2009 was performed, and all articles were evaluated and collated. The results were

summarized. There is an acute need for psychiatric emergency services in India. Suicides, acute psychoses, and substance related problems form the major portion of behavioral emergencies, while current trends show a rise in disaster- and terrorism-related emergencies [2].

- Shalini pathania, shivani pathania, nitin goel (2017) conducted a study to assess the knowledge of nursing students regarding psychiatric emergencies. The findings of the study are descriptive research design was adopted target population was nursing students, studying in b.sc nursing, post basic b.sc nursing, and gnm in selected college of moga (Punjab) were included in this study. Convenient sampling technique was used. Self-structured questionnaire related to psychiatric emergencies was used which consist of 40 questions. The level of knowledge regarding management of psychiatric emergencies, 31(51.67%) were had poor knowledge, 22(36.67%) had Average knowledge, 07(11.67%) had good knowledge and None of them had excellent knowledge [3].

- B. Jayabharathi1, V. Jeya, R. Porchelvi, S.Saraswathi, B. Mythily (2019) conducted a study to Assess the Knowledge on Psychiatric Emergencies among Staff Nurses. The study aims to assess the knowledge on psychiatric emergencies among staff nurses at SRM 20 general hospital, Kattankulathur, Kanchipuram district. Methodology: Non experimentaldescriptive research design was used to assess the knowledge on psychiatric emergencies among staff nurses. The study was conducted at SRM general hospital, Kattankulathur, Kanchipuram district. 100 Staff nurses who were working at SRM general hospital were selected by Non-probability convenient sampling technique. The tool consisted of 2 sections. Section A dealt with demographic details of staff nurses and section B consisted of structured questionnaire to assess the knowledge on psychiatric emergencies among staff nurses. Results: The present study results reveals that, 47(47%) of them had inadequate knowledge on psychiatric emergencies, 30(30%) of them had moderately adequate knowledge on psychiatric emergencies and 23(23%) of them had adequate knowledge on psychiatric emergencies [4].

- Mrs. Mercy Joy, Ms. Gargi Mondal, Ms Geeta Kumari, Mr Samim Wasim Akram Mondal, Ms Sukanya Pal, Ms Vandana Chaudhary (2019) has conducted a study to assess the Effectiveness of Planned Teaching Programme on knowledge regarding Management of Selected Psychiatric Emergencies among staff nurses working in Rama Hospital and Research Centre, mandhana, Kanpur. The research approach adopted, for the study was quantitative research approach and design was one group pre- test post- test design. Setting of the study was selected in Rama hospital, Kanpur and the population was nursing personnel working in Rama Hospital Kanpur.
The sample size was 30 nursing personnel, selected by convenient sample technique. Demographic data were collected by structured questionnaire and knowledge was assessed. The pre- test knowledge was assessed on the first day and plan teaching programme was given and post- test knowledge was assessed with the same tool on the 5th day of planned teaching programme. The study was statistically significant at 0.05 level. The total mean post-test knowledge score (17.43) was higher than the mean pre-test score (11.133) [5].

- Meghana Madan Kamble, Monita Thockchom (2019) conducted a study to assess the level of knowledge of staff nurses regarding nursing management of psychiatric emergencies before and after giving the structured teaching programme, Quantitative research approach was used. The design adopted for this study is Quasi experimental, nonrandomized control group design. The 60 staff nurses are selected for research study by Non-probability sampling technique- Purposive sampling method. The structured questionnaire tool consists of two sections. The total mean knowledge score of 11.4 in pre-test with SD 2.52 and 17.5 with SD.99 was there in experimental group. Findings shows that the significant change was observed in knowledge level as evident from the calculated' value 11.4 to 17.5 in experiment group with t value of 5.66 to 14.46 and p value is.00001 that is less than 0.05 therefore structured teaching programme was effective. Hence H0 was rejected. Therefore, the structured teaching programme was effective to increase level of knowledge of staff nurses [6].

- A psychiatric emergency is a disturbance in thought, mood and action which cause sudden distress to the individual and or sudden disability, thus requiring immediate management. This has become a challenging field in the face of rise in incidence of violence, rape, abuse, addiction and murder in the society.

- Psychiatric emergency conditions are increasing and need immediate management and care. Health personnel should have adequate knowledge to provide emergency care. nurses are the people who work with the patients 24 hours a day and 7 weeks a day. Student nurses are the future staff nurses.

- If they are provided with sufficient knowledge regarding the management of psychiatric emergency, they will be able to provide immediate care and minimize complications.

- From my own experience, review of literature and discussion with experts realized that psychiatric emergency is increasing more and more and nurses are not prepared to meet these emergencies. Therefore I felt a need to assess the knowledge of students regarding psychiatric emergencies and to provide problem based learning to improve their knowledge.

Problem Statement
A prexperimental study to assess the effectiveness problem-based learning on knowledge and decision-making abilities regarding management of psychiatric emergencies among nursing students in selected college of Noida

Objectives
- To determine the level of knowledge and decision-making abilities of students regarding nursing management of psychiatric emergencies.
- To determine the posttest level of knowledge and decision-making abilities of students regarding nursing management of psychiatric emergency
- Evaluate the effectiveness of problem-based learning on management of psychiatric emergencies
- Find out the association between the mean pretest knowledge score and decision-making abilities of b.sc 4th year nursing students regarding management of psychiatric emergencies and selected socio demographic variables (age, sex, practical experience).

Hypothesis
- **H1-** There will be significant difference between the mean pretest knowledge and decision-making score and mean posttest knowledge and decision-making score regarding management of psychiatric emergencies among nursing students at 0.05 level of significance.
- **H2-** There will be Significant association between the mean posttest knowledge and decision-making score among nursing students regarding nursing management of psychiatric emergencies with demographic variables at 0.05 level of significance.

Methodology
Research Approach
A quantitative (experimental) research approach was used in the present study.

Research design: a pre-experimental (one group pretest and posttest) design was adopted in the study.

Setting: Nightingale Institute of Nursing, Noida.

Population: population comprised of B.sc 4th year of Nightingale institute of Nursing, Noida.

Sample: b.sc 4th year students studying in Nightingale institute of Nursing, Noida.
Sampling Technique: convenience sampling technique

Sample Size: 50 b.sc 4th year students.
Description of tool and intervention: The following tools after content validity from experts were used to collect the data.

The tool developed by the researcher included the following sections:
Tool 1: knowledge questionnaire and Decision-making Checklist. It has three sections

Section A: socio demographic characteristics of students which has 3 items.

Section B: Structured Knowledge Questionnaire. It consists of 25 items.

Section C: Decision making checklist. It consists of 20 items.

Tool 2: interventional program (Problem Based Learning).
Content Validity: content validity of the tool was established by 10 experts. These experts were from Mental Health Nursing department. For establishing content validity criteria checklist was prepared. A remark column was prepared for each item, where experts can give their suggestions and remarks. Minor and necessary changes were made as per the recommendation and comments of the experts. Thus the final tool was prepared based on the experts suggestions.

Reliability: The reliability of the structured knowledge questionnaire and decision-making ability was established by split half method.
Khurdand Richardson formula was used to find out the reliability of the tool. The reliability obtained was found for knowledge questionnaire $r = 0.84$ and for decision making checklist $r = 0.60$. Thus the tool was found to be reliable.

Ethical Consideration
- Permission for final study was taken from the principal of Nightingale Institute of Nursing, Noida.
- Written informed consent was taken from the study subjects regarding their willingness to participate in the research project.
- Pilot Study: Pilot study was conducted on B.Sc. nursing 4th year students studying in Ahilya Bai College of Nursing, New Delhi by convenience sampling technique with 10 nursing students in the month of January 2021 to ascertain the feasibility of the study.

▪ **Data Collection Procedure:** after obtaining the formal permission from the ethical committee of Nightingale institute of nursing, Noida. Self-introduction was given, nature and purpose of the study were explained to the study subjects. The confidentiality of their responses was assured and written consent from the participants were taken prior to the study.B.sc (N) 4th year students were selected by Convenience sampling technique. The data collection was done in the month of march. The demographic variables, structured knowledge questionnaire and Decision-making checklist were administered   to assess the baseline characteristics knowledge and decision-making abilities of students regarding management of psychiatric emergencies.

Findings

Section 1: description of demographic data

▪ Considering the age in knowledge and decision-making abilities revealed that maximum of the students i.e. 18(36%) B.Sc. 4th year students were under the age group of 20-21years, 21(42%) were under the age group 22 years and 11(22%) were under the age group (more than 22) years.

▪ Regarding the gender in knowledge and decision-making abilities majority of the studentsi.e.49 (98%) were female and 1(2%) were male.

▪ In practical experience in psychiatric ward majority of the students i.e. 46(92%) were having one-month practical experience in psychiatric ward, 4(8%) were having less than one-month experience in psychiatric ward and none of them have more than one-month experience in psychiatric ward

Section 2: Bar Diagram Showing Distribution of Pre-Test and Post Test Score Level of Knowledge

In Pre-test Majority of students i.e. 32(64%) were having score between (11-15), 15(30%) were having score between (6-10), 2(4%) were having score between (16-20) and 1(2%) were having score between (1-5). Whereas in Post Test 39(78%) were having score between (16-20), 9(18%) were having score between (21-25) and 2(4%) were having score between (11-15). Which indicates problem-based learning was effective for them.
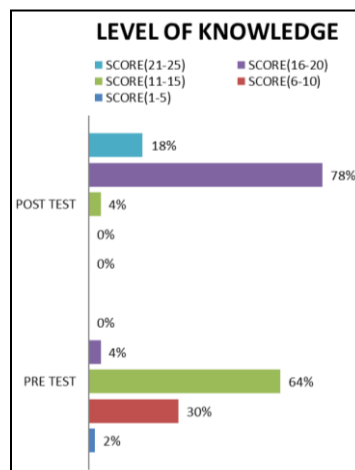

Fig 1

Section 3: Bar Diagram Showing Distribution of Pre-Test and Post Test Score of Decision-Making Abilities

In Pre-test Majority of students i.e. 45(90%) were having score between (11-15), 5(10%) were having score between (6-10). Whereas in Post Test 49(98%) were having score between (16-20), 1(2%) were having score between (11-15). Which indicates problem-based learning was effective for them.
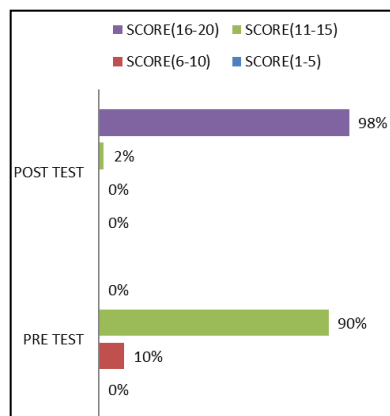

Fig 2

Section 4: Mean, standard deviation and z test value of pretest and posttest knowledge score of sample

Table 1

N=50

Knowledge score	Mean	Mean difference	Standard deviation	Z test value
Pre-test	11.4	7.5	2.18	26.78*
Post test	18.9		1.87	

At 0.05 level of significance z = 1.96

1. The mean posttest score of students is (18.9) which is higher than the mean pretest score (11.4) with the mean difference of (7.5).
2. The calculated z test value is 26.78 which is greater than the table value at 0.05 level of significance.
3. Hence, null hypothesis H_{01} was rejected and research hypothesis was accepted. It is concluded that the problem-based learning was effective.

Table 2: Mean, standard deviation and Z Test Value of Pre Test and Post Test decision making score of Sample

N=50

Decision making ability	Mean	Mean difference	Standard deviation	Z test value
Pre test	11.86	5.4	1.07	38.57*
Post test	17.26		1.04	

At 0.05 level of significance z = 1.96

1. The mean post test score of students is (17.26) which is higher than the mean pre test score (11.4) with the mean difference of (11.86).
2. The calculated z test value is -38.57 which is greater than the table value at 0.05 level of significance.
3. Hence, null hypothesis H_{01} was rejected and research hypothesis was accepted. It is concluded that the problem-based learning was effective.

Section 5: Findings related to association of post-test knowledge scores regarding psychiatric emergencies and its management with selected demographic variables.

Table 3

S.no	Characteristics	Knowledge score Above mean	Below mean	Df	Chi square with yates correction calculated value	Chi square with yates correction table value	S/NS
		Age					
1	20-21	13	5	2	27.97	5.99	NS
	22	19	4				
	More than 22	7	2				
		Gender					
2	Male	0	1	1	6511.85	3.84	NS
	Female	39	10	5			
		Practical experience in psychiatric ward					
3	Less than one month	5	0	2	127.43	5.99	NS
	One month	34	11				
	More than one month	0	0				

*At 0.05 level of significance

Table 4: Findings related to association of post-test Decision making score scores regarding PSYCHIATRIC emergencies and its management with selected demographic variables

S.no	Characteristics	Decision making score Above mean	Below mean	Df	Chi square with yates correction calculated value	Chi square with yates correction table value	S/NS
		Age					
1	20-21	15	3	2	21.79	5.99	NS
	22	15	8				
	more than 22	7	2				
2		Gender					
	male	1	0	1	5370.3	3.84	NS

	Female	37	12			
3	practical experience in psychiatric ward	4 34 0	1	113.17	5.99	NS
	less than one month		11			
	one month	0 2				
	more than one month					

Disscussion

The present study was focused on the effectiveness of problem-based learning on knowledge and decision-making abilities regarding management of psychiatric emergencies among nursing students in selected college of Noida.

A number of studies have been included in the chapter dealing with review of literature.

shalini pathania, shivani pathania, nitin goel conducted a study to assess the knowledge of nursing students regarding psychiatric emergencies. The findings of the study are descriptive research design was adopted target population was nursing students, studying in b.sc nursing, post basic b.sc nursing, and gnm in selected college of moga (Punjab) were included in this study. Convenient sampling technique was used. Self-structured questionnaire related to psychiatric emergencies was used which consist of 40 questions. The level of knowledge regarding management of psychiatric emergencies, 31(51.67%) were had poor knowledge, 22(36.67%) had Average knowledge, 07(11.67%) had good knowledge and None of them had excellent knowledge [3].

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Conclusion

The following conclusion were drawn from the finding of the study
    Data shows that:-

- Considering the age in knowledge and decision-making abilities revealed that maximum of the students i.e. 18(36%) B.Sc 4th year students were under the age group of 20-21years, 21(42%) were under the age group 22 years and 11(22%) were under the age group (more than 22) years.
- Regarding the gender in knowledge and decision-making abilities majority of the studentsi.e.49 (98%) were female and 1(2%) were male.
- In practical experience in psychiatric ward majority of the students i.e. 46(92%) were having one-month practical experience in psychiatric ward, 4(8%) were having less than one-month experience in psychiatric ward and none of them have more than one-month experience in psychiatric ward

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