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An experimental study to assess the effectiveness of structured teaching programme on knowledge regarding utilization of crash cart in hospitals among 4th year b.sc nursing students of selected nursing colleges in Pune city

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Abstract

Introduction: The crash cart is characterized by being easily movable and readily accessible into all sides of the cart for quickly viewing and removing equipment and drugs during an emergency situation. It is often the nurse's role to undertake the routine checking of the resuscitation trolley and cardiopulmonary equipment. In many institutions the nurses do not play only a supportive role, but they also manage initial treatment while the patient's physician is in route to the location of the emergency. Problem statement- "An experimental study to assess the effectiveness of structured teaching programme on knowledge regarding utilization of crash cart in hospitals among 4th year B.Sc. Nursing students of selected nursing colleges in Pune city." Materials and methods A Quantitative Research Approach was used for the study with the one group pretest post design The General Systems Theory was used for the study which is developed by Ludwig Von Bertalanffy .The study was conducted in selected nursing colleges of Pune city. Non-probability Purposive sampling technique was used for 100 sample the tool developed which includes section 1= the demographic variables section 2= 30 structured questionnaire consists of knowledge regarding utilization of crash cart in hospitals. Tool validity was done and tool found reliable. Study found feasible after pilot study. Results .Researcher applied paired t-test to check hypothesis. Corresponding p-value was 0.000, which is small (less than 0.05), null hypothesis is rejected. Fisher's exact test for association between knowledge and selected demographic variables since all the p-values are large (greater than 0.05), none of the demographic variable was found to have significant association with knowledge of fourth year B.Sc. nursing students on utilization of Crash cart. Conclusion Structured teaching programme is found effective to increase the knowledge score of 4th year B.sc nursing students regarding utilization of crash cart in hospital.

Keywords: Knowledge, effectiveness, crash cart, hospital, structured teaching programme, students

1. Introduction

Nurses and doctors, the first in line to provide life support and resuscitation should always be clearly aware of the placement of the emergency cart and their contents and their use. Staff must be familiar with the location of all resuscitation equipment within their working area A "Crash Cart" is a mobile, compact cart, equipped with various medical aid tools (used mainly for cardiac emergencies). The cart consists of items such as a defibrillator, medications, a suction pump, and other life-saving equipment. The function of crash carts is to provide a mobile station within the hospital that contains everything needed to treat a life threatening situation. The advantage of mobility is that it allows the treatment to come to the patient when needed It is often the nurse's role to undertake the routine checking of the resuscitation trolley and cardiopulmonary equipment. As nurses play a major role in the provision of health care, it is the nurses who frequently discover patient with cardiac arrest and it is necessary for them to restock the crash cart after every shift, verifying the presence and expiry date of every item .Nurses play an integral role in the management of cardiopulmonary arrests. In inpatient facilities, nurses are at the patient's bedside 24 hours/day and are likely to be the first to respond and manage initial treatment during an emergency.

In many institutions the nurses do not play only a supportive role but they also manage initial treatment while the patient's physician is in route to the location of the emergency.

2. Methodology

Research Approach: Quantitative approach

Research Design: Pre- experimental, one group pretest and Posttest design

Variables under study

Dependent variable: Knowledge of the 4th year B.sc nursing students regarding utilization of crash cart in hospitals

Independent variable: Structured teaching programme on utilization of crash cart.

Research Setting: Selected nursing colleges of Pune city

Population – Target Populatio: 4th year B.Sc nursing students.

Sample: Accessible Population 4th year B.Sc. nursing students studying in selected nursing colleges of Pune city.

Sample Selection criteria (Inclusion and Exclusion)

Inclusion criteria:

- 4th year B.Sc. nursing students of selected nursing colleges of pune city.

Exclusion criteria:

- Students who are not present at the time of data collection.

Sample Size: 100

Sampling technique: Non probability purposive sampling technique

Development of tool

Description of the tool

- Part-A: Performa for collecting demographic data
- Part B-structured questionnaire related to knowledge regarding utilization of crash cart in hospitals. Total 30 questions were included

Scoring

Level	Score
Poor	0-10
Average	11-20
Good	21-30

Validity

The process of validity was started from 9/06/2016 Tool which was to be given for validation to the experts was confirmed by the guide and co-guide On 13/06/2016 Tool given to validation to experts had started from 14/06/2016 Tool given to experts from the fields like medical surgical nursing, emergency medicine, intensive care unit. Tool was given to the total 23 Experts by the date of 18/06/2016 Collection of tool from experts from validation was completed on 22/06/2016. Total 15 experts had given back the tool with their Suggestions Various

suggestions of the experts was taken into Consideration like modification of the questions, modification of Options, grammatical corrections tool was corrected and finalized by The guide and co-guide on 24/06/201

Ethical consideration

- Researcher had obtained approval from appropriate review boards to conduct the study.
- Researcher had taken formal permission from the selected nursing colleges of Pune city to conduct study.
- Only the samples who had signed the consent form are included in the study.
- Confidentiality of the data is maintained strictly

Reliability

Assessment of the tool for reliability was done by using Karl Pearson Correlation coefficient formula. Result of reliability test was come 0.98 and tool was found Reliable

Plan for data collection

- Ethical committee clearance
- Permission from the authorities of the institution
- Consent from research participants
- Pretest related to knowledge regarding utilization of crash cart
- Structured teaching programme on utilization of crash carton the same day of pre test
- Posttest after 7 days of structured teaching programme.

Data analysis and interpretation

- Calculate frequency percentage mean and standard deviation
- Check the hypothesis by using paired t test.
- Inferential analysis to calculate and to correlate associate between demographic variable

Pilot study

Study was found feasible on pilot study

3. Results

Description of samples (4th year B.Sc. nursing students) based on their personal characteristics

Table 1: of samples (4th year B.Sc. nursing students) based on their personal characteristics in terms of frequency and percentages n=100

Demographic variable	Freq	%
Age		
22-23 years	92	92%
24-25 years	8	8%
Sex		Sex
Male	24	24%
Female	76	76%
Have yoy seen crash cart been utilized		
Yes	96	96%
No	4	4%
If yes how many times		
1-5 times	42	42%
6-10 times	20	20%
More than 10 times	33	33%
Trained for additional courses such as		
Basic Life Support	42	42%
Advance cardiac life support	19	19%
Advance trauma life support	1	1%

Knowledge of 4th year B.Sc. nursing students regarding utilization of crash cart system

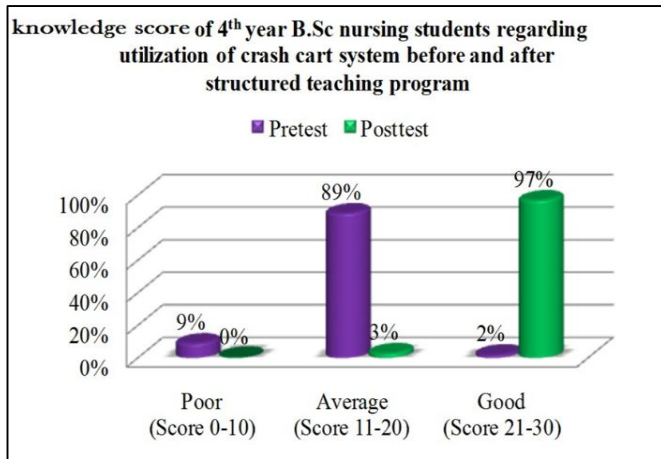


Fig 2: Effectiveness of structured teaching programme on knowledge of 4th year B.Sc. nursing students regarding utilization of crash cart system n-100

In pretest, 89% of the 4th year B.Sc. nursing students had average knowledge (score 11-20), 9% of them had poor (score 0-10) and 2% of them had good knowledge (score 21-30) regarding utilization of Crash cart. In posttest, 3% of the

4th year B.Sc. nursing students had average knowledge (score 11-20) and 97% of them had good knowledge (score 21-30) regarding utilization of Crash cart. This indicates that there is remarkable improvement in the knowledge of the 4th year B.Sc. nursing students regarding utilization of crash cart.

Table 3: Paired t-test for effectiveness of structured teaching programme on knowledge of 4th year B.Sc. nursing students regarding utilization of crash cart system n-100

	Mean	SD	T	Df	p-value
Pretest	16.2	3.6	7.3	99	0.000
Posttest	25.1	1.8			

Researcher applied paired t-test for comparison of pretest and posttest. Average knowledge score in pretest was 16.2 which increased to 25.1 in posttest. T-value for this comparison was 7.3 with 99 degrees of freedom. Corresponding p-value was 0.000, which is small (less than 0.05), null hypothesis is rejected. Structured teaching program was found to be significantly effective in improving the knowledge of the fourth years B.Sc. nursing students regarding utilization of crash cart.

Table 8: Fisher’s exact test for association between knowledge and selected demographic variables n-100

Demographic variable		Average	Good	Poor	p-value
Age	22-23 years	81	2	9	0.584
	24-25 years	8	0	0	
Sex	Male	22	0	2	0.714
	Female	67	2	7	
Have you seen crash cart been utilized	Yes	86	2	8	0.506
	No	3	0	1	

Since all the p-values are large (greater than 0.05), none of the demographic variable was found to have significant association with knowledge of fourth year B.Sc.

4. Conclusions

On the basis of the findings of the present study the following conclusions can be drawn:-

- In the pretest 2% of students was having good knowledge score
- In posttest after structured teaching programme 97% of students was having good knowledge score
- Structured teaching programme is found effective to increase the knowledge score of 4th year B.sc nursing students regarding utilization of crash cart in hospitals.

5. Discussions

A study has conducted by Mr. Paramesha, Mr. Kumar, Vinay G., Mr. Murthy, Vishakanta D.G. to Assess the Effectiveness of Self Instructional Module of Knowledge on Utilization of Emergency Crash Cart System in Hospital among 4th year B. Sc Nursing Students of Selected Nursing Colleges in Mysore findings of Pretest revealed that 4th year B. Sc Nursing students were having low level of knowledge with a mean score of 18.35. After giving Self-instructional module post test score increased to 23.69, which shows the effectiveness of Self-instructional module. It has been found that variables like age, sex and source of information shows there will be significant association with Post-test knowledge level. Interpretation and conclusion As the mean post test score is significantly higher than that of the pre-test it is evident that the knowledge of 4th year B. Sc Nursing students was improved after the educational intervention.

The tool developed can be used to identify individuals in need of educational intervention as well as to assess the effectiveness of emergency crash cart system <In the present study the structured teaching programme was done the pretest, posttest knowledge showed that structured teaching programme was effective in improving the knowledge score of 4th year B.Sc. Nursing students as the mean pretest knowledge score was 16.2 and mean posttest knowledge score was

A study has conducted by Mr. Rajendra D. Lamkhede in Loni in 2014 to assess the Effectiveness of planned teaching programme on knowledge of emergency drugs among staff nurses that the knowledge of staff nurses after pre-test and before planned teaching programme was not satisfactory; the planned teaching programme helped them to learn about emergency drugs. The post-test knowledge scores showed significant increase in knowledge. In the present study the structured teaching programme was done the pretest, posttest knowledge showed that structured teaching programme was effective in improving the knowledge score of 4th year B.Sc. Nursing students as the mean pretest knowledge score was 16.2 and mean posttest knowledge score was 25.1

6. Limitations

- This study is limited to 100 4th year B.Sc. nursing students studying in selected nursing colleges of pune city.
- Data collection period was only for one month
- The study was limited to the experience level of the researcher

7. Recommendations

Keeping in view the findings of the study, the following recommendations are made.

- Study can be done on more no of 4th year B.Sc. nursing students
- Demonstration method can be used to improve the knowledge of staff nurses related to utilization of crash cart in hospitals
- Similar study can be done on staff nurses working in hospitals.
- Clinical teaching method can be used to improve the knowledge of staff nurses related to utilization of crash cart in hospitals
- Study can be done on different settings
- Study can be done on students of general nursing and midwifery students
- Study can be done with keeping control group and experimental group
- Simulation technique can be used to make students more confident

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“This study is dedicated to each 4th year B.Sc. nursing students

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