A Study to Assess the Effectiveness of Educational Intervention Program Regarding Ecmo Therapy among Nursing Students in Selected Nursing College, Bareilly.

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Abstract

Background: An ECMO machine can help to save a person's life, but it does not heal the disease or injury that led to the heart and lung failure.[3]As ECMO is one of the advanced technologies, the investigator desired to educate the nursing students about ECMO therapy.

Objectives:1. To assess the level of Knowledge among nursing students regarding ECMO therapy.2.To determine the effectiveness of educational intervention programregarding ECMO therapy among nursing students.3.To find an association between level of knowledge with their selected demographic variables.

Materials and Methods: In the pre experimental study, 50 nursing students were selected as the samples by using non probability convenient sampling. The tools used for data collection consisted of proforma for socio-demographic data and structured knowledge questionnaire.The collected data was analyzed by using descriptive and inferential statistics.

Result: Most of the nursing students had poor and average knowledge in pre test while most of the students had good knowledge in post test. Chi- square value reveals that among the entire demographic variablethere was a significant associated illustrated between marital status and pre-test scores.

Conclusion: Educationalintervention program regarding ECMO therapy found to be effective in improving the knowledge of Nursing students.

INTRODUCTION:

ECMO stands for extracorporeal membrane oxygenation.[1]Extracorporeal Membrane Oxygenation (ECMO) is an advanced technology that substitutes the circulatory and respiratoryfunction.[3]In extracorporeal membrane oxygenation (ECMO), blood is pumped outside the body to an ECMO machine that removes carbon dioxide and sends oxygen-filled blood back to tissues in the body.[2] An ECMO machine can help to save a person's life, but it does not heal the disease or injury that led to the heart and lung failure. An ECMO machine simply provides support for a person while the healthcare team works on treating the heart or lung disease, injury, infections or until organs for transplant become available.[3]

However, ECMO is a high-risk procedure with a mortality rate of 25%[4], some of the more serious problems that may occur when a patient is on ECMO like bleeding, kidney failure, infection, leg damage and stroke. ECMO is only a "life-sustaining treatment" that can prolong life to allow for more time to try fixing the problem but does not cure illness or injury.[3]

As ECMO is one of the advanced technologies, the investigator desired to assess the level of knowledge regarding ECMO therapy and find out the effectiveness of educational intervention programon ECMO therapy.

STATEMENT OF THE PROBLEM:

A study to assess the effectiveness of educational intervention programregarding ECMO therapy among Nursing students in selected Nursing college, Bareilly.

OBJECTIVES:

1. To assess the level of Knowledge among nursing students regarding ECMO therapy.
2. To determine the effectiveness of educational intervention programregarding ECMO therapy among nursing students.
3.   To find an association between level of knowledge with their selected demographic variables.

MATERIALS AND METHODS:

Research Approach: Quantitative Approach

Research Design: Pre- experimental one group pre testpost test research design

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Setting of the study: Selected nursing college at Bareilly

Population: Nursing students those who are studying in 3rd and 4th year B.Sc. N and 3rd year G.N.M at selected nursing college

Sample Size: 50

Sampling Technique: Non-Probability Convenient Sampling

CRITERIA FOR SAMPLE SELECTION:

Inclusion Criteria:

- Subjects who are willing to participate in this study
- Subjects who are able to read and understand English.

Exclusion Criteria:

- Subjects who are not willing to participate in the study.

TOOLS AND TECHNIQUE:

Tools: Questionnaire

Section A: Socio-demographic data

Section B: Questions related to ECMO therapy.

Data collection procedure

Before going to the data collection, permission was obtained from the concerned authority of college of Nursing. Informed consent has taken from students. The researcher has done pre-test through structured questionnaire after that education intervention program had administered it consist of video, poster, lecture and demonstration. Post-test was done after 7 days with the same questionnaire.

Collected data was analysed by using differential and inferential statistics.

RESULTS

Section – description of demographic profiles of nursing students

Table 1: Frequency and percentage distribution

n=50

S. No.	Variable	Category	Frequency	Percentage
1.	Age	a) 19-20	9	18%
		b) 21-22	28	56%
		c) 23-& Above	13	26%
2.	Gender	a) Male	13	26%

		b) Female	37	74%
3.	Course	a) B.Sc. Nursing	25	50%
		b) GNM	25	50%
4.	Year of studying	a) III Year	25	50%
		b) IV Year	25	50%
5.	Marital Status	a) Married	07	14%
		b) Unmarried	43	86%
6.	Residence	a) Urban	25	50%
		b) Rural	25	50%
7.	Previous Knowledge of about ECMO Therapy	a) Yes	28	56%
		b) No	22	44%

Section II : findings related to comparison of pre test and post test score of Nursing students

Table no 2: Categories wise overall pre test and post test comparison based on total score.
n=50

Level of Knowledge	Study Group			
	Pre test		Post Test	
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Poor	40	80	0	0
Average	10	20	1	2
Good	0	0	49	98
Total	50	100	50	100

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Table no 2 reveals that among 50, most of them 40 (80%) had poor knowledge, followed by 10 (20%) had average knowledge and least 0 (0%) had good knowledge pre test and majority 49 (98%) had good knowledge, followed by 1(2%) had average knowledge and least 0 (0%) had poor knowledge in post test.

It was inferred that most of the student had poor and average knowledge in pre test while most of the student's good knowledge in post test.

Section III: efficiency of educational intervention program on ECMO among nursing students

Table no 3: Mean, standard deviation, mean difference paired't' value and p value of pre test and post test level of knowledge.

n=50

Level of knowledge	Mean score	Standard deviation	Mean difference	't' value	p value
Pre Test	4.78	33.12	7.98	32.19*	0.00
Post Test	15.76	15.14			

Significant at the level of $p < 0.05$

Table no 3 reveals that, the pre test mean score was 4.78 with the standard deviation 33.12 and post test mean score was 15.76 with the standard deviation 415.14 in which mean difference was 7.98. The calculated't' value 32.19 and calculated p value 0.00 was significant at $p < 0.05$ level. Hence the stated null hypothesis (H$_0$) was rejected and research hypothesis (H$_1$) was accepted and it was inferred that there was significant difference between mean pre test and post test level of knowledge

Section IV: Association between pre score with their selected sample characteristics.
Chi- square value reveals that among the entire demographic variablethere was a significant associated illustrated between marital status and pre-test scores.

DISCUSSION:
mona m. shabanalso demonstrated the same conceptthe of the study onEffect of Educational Program About Care of Patients Connected to Extracorporeal Membrane Oxygenation (ECMO) on Nurses Knowledge. . The study revealed that, the majority (94.1%) of nurses did not attend any training courses related to ECMO and after implementation of ECMO educational program the knowledge is increased as evidence by F-ratio is 494.8. The researcher concluded that nursing educational program was effective for enhancement of nursing knowledge on ECMO. [5]

CONCLUSION:

The major conclusion drawn from this study was that educational intervention program found to be effective in improving knowledge of nursing students regarding ECMO therapy.

Conflict of interest – No
Source of funding – self

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