International Journal of Science and Research (IJSR)
ISSN: 2319-7064
SJIF (2022): 7.942

Effect of Structured Teaching Programme on Knowledge Regarding Cardiopulmonary Resuscitation among 1st Year GNM Students of CPMS College of Nursing Guwahati, Assam

Anita Shrestha[1], Rishanborlang Suting[2]

Srimanta Sankaradeva University of Health Sciences
Email: *anitashresthanewari[at]gmail.com*

Abstract: ***Introduction: The knowledge of CPR plays an important role in the final outcomes of emergency situation. CPR is a procedure applied to prevent irreversible brain damage or death in the case of cardiac arrest. Therefore, awareness and experience of CPR in health care professionals is vital. Title of the study: Effect of Structured Teaching Programme on Knowledge regarding Cardiopulmonary Resuscitation among 1st year GNM students of CPMS College of Nursing Guwahati, Assam. Objectives: To evaluate the effect of structured teaching programme regarding Cardiopulmonary Resuscitation among 1st year GNM students of CPMS College of Nursing Guwahati, Assam. Methodology: A pre-experimental one group pre-test post-test design was adopted for this study. Self-structured knowledge questionnaire was used to collect data from a sample of 44 number of 1st year GNM students using non-probability purposive sampling technique. Result: Pre-test knowledge score revealed that majority 31(70%) of the participants had inadequate knowledge, followed by 12(28%) with moderately adequate knowledge and 1(2%) with adequate knowledge whereas after administration of structured teaching programme, majority 23(52%) had moderately adequate knowledge and 21(48%) had adequate knowledge. Calculated paired t test value was found to be "t=10.56" which is highly significant at p ≤ 0.05 level of significance. Conclusion: Findings of the study revealed that structured teaching programme was effective in increasing the knowledge regarding Cardiopulmonary Resuscitation among 1st year GNM students of CPMS College of Nursing.***

Keywords: Effect, Structured Teaching Programme, Cardiopulmonary Resuscitation, Knowledge

1. Introduction

Cardiac arrest occurs when the heart ceases to produce an effective pulse and circulate blood. It may be caused by a cardiac electrical event (ie, dysrhythmia) such as ventricular fibrillation, progressive profound bradycardia, or when there is no heart rhythm at all (asystole). In cardiac arrest, consciousness, pulse, and blood pressure are lost immediately. The risk of irreversible brain damage and death increases with every minute from the time that circulation ceases. During this period, the diagnosis of cardiac arrest must be made and measures must be taken immediately to restore circulation. [1]

Cardiopulmonary resuscitation (CPR) provides blood flow to vital organs until effective circulation can be reestablished. Following recognition of unresponsiveness, lack of pulse and respiration, the protocol for basic life support is initiated. [1] CPR is an emerging life-support procedure and applied to prevent irreversible brain damage or death in the case of cardiac arrest. CPR is the first line treatment for the person who is unresponsive, suffering from cessation of respiration, development of cyanosis and pallor skin, absence of heart sounds and blood pressure, loss of palpable pulse. "Cardio" refers to the heart function and "Pulmonary" refers to the lung function. CPR is a combination of chest compressions and rescue breathing." Resuscitation" is the medical term that means "to revive" or "bring back to life". It is the ultimate full body ischemia reperfusion injury affecting multiple organ systems including brain and heart. So it becomes inarguably essential that medical students, nursing students to have updated knowledge on CPR in order to provide a satisfactory care. [2]

2. Literature Survey

Vandali V et al (2018) conducted a study to assess the knowledge regarding Cardiopulmonary Resuscitation (CPR) among 1st Year GNM students studying in SND College of nursing with a view to develop an information booklet" in Maharastra comprising of 50 samples. The finding from the study showed that no student had poor knowledge regarding CPR among the 1st year GNM students, 38% of adequate knowledge regarding CPR and the majority of 62% students had good knowledge about Cardiopulmonary Resuscitation (CPR). The study concluded that the GNM students required more knowledge and skill regarding CPR to practice effectively to save life of a victim. Even though majority of the GNM (diploma nursing students) had good knowledge but still perfection is required to practice it whenever needed in emergency. [3]

Lal M M, Goria N (2020) conducted a Quasi-experimental study to assess the effect of STP on knowledge regarding CPR among B.Sc Nursing student in nursing College of Punjab. A Structured Knowledge Questionnaire regarding CPR was prepared and used to collect the data. Result of the study showed that in pre-test majority of students were in average category i.e. 60% B. Sc. Nursing students and in post-test majority of students were in good category i.e. 96% B. Sc. Nursing students. Paired 't' test findings showed highly significant difference of Pre-test and Post-test knowledge scores of B. Sc. Nursing students regarding Cardiopulmonary Resuscitation (CPR). Chi square result showed no association between the level of knowledge scores and demographic vary of the B. Sc. Nursing students. The study concluded that STP

was effective in improving the knowledge regarding CPR among B. Sc. Nursing students. [2]

G Prateeksha, M Salakha, C Kavita (2020) conducted a pre-experimental among 30 B.Sc. Nursing students to assess the level of knowledge regarding Cardiopulmonary Resuscitation and to find out the effect of STP on Cardiopulmonary Resuscitation at Dayananada Sagar College of Nursing Sciences, Bangalore. The study revealed that 73.33% of students had inadequate knowledge, 26.66% had moderate knowledge in the pre-test whereas after administration of STP, 43.33% had inadequate knowledge,40% had moderate knowledge and 16.67% had adequate knowledge in the post-test. The calculated paired 't' value was 5.7 which comprises a significant at the level of $p < 0.05$. Hence, there was a statistically significant difference between pre-test and post-test level of knowledge regarding Cardiopulmonary Resuscitation among the students at the level of $p<0.05$. [4]

3. Problem Definition

A study to assess the effect of structured teaching programme on knowledge regarding Cardiopulmonary Resuscitation among 1st year GNM students of CPMS College of Nursing Guwahati, Assam.

4. Methodology/Approach

Research approach: Quantitative research approach

Research design: One group pretest post-test design

Study setting: The study was conducted at CPMS College of Nursing Amgaon Bonda, Guwahati.

Duration of the study: 3 months

Sample Size: 44 students

Sampling Technique: Non-probability purposive sampling technique

Development of tool: The tool used for the study were demographic variables and self-structured knowledge questionnaire. In order to determine the content validity, the research tools were given to five experts from the field of Medical Surgical Nursing. The reliability of the self - structured knowledge questionnaire was established by split half method and was calculated using Karl Pearson Coeffecient Correlation formula. Data analysis was done by using both descriptive and inferential statistics based on the objectives of the study in terms of mean, frequencies, percentages, median, standard deviation and chi – square.

5. Results/ Discussion

Table 1: Frequency and percentage distribution of students according to demographic variables, n=44

S. No	Demographic variables	Groups	Frequency	Percentage
1.	Age	18 – 20	23	52 %
		21 years and above	21	48 %
2.	Gender	Female	38	86 %
		Male	6	14%
3.	Religion	Hinduism	12	27%
		Muslim	4	10%
		Christian	16	36%
		Others	12	27%
4.	Area of residence	Urban	38	86%
		Rural	6	14%
5.	Previous knowledge	Yes	18	41%
		No	26	59%

The data in Table 1 showed that majority 23 (52%) of the students belonged to the age group of 18-20 years. Majority 38 (86 %) of the students were female. Majority 16 (36%) of the students belonged to Christian religion, 38 (86 %) of the students come from urban area of residence, 26 (59 %) of the students had previous knowledge.

Table 2: Frequency and percentage distribution of pre-test and post-test level of knowledge score regarding Cardiopulmonary Resuscitation among 1st year GNM students , n=44

S. no.	Level of knowledge	Score	Pre-test		Post-test	
			Frequency	Percentage	Frequency	Percentage
1	Inadequate knowledge	(1 – 10)	31	70%	-	-
2	Moderately adequate knowledge	(11 – 15)	12	28%	23	52%
3	Adequate knowledge	(16 – 20)	1	2%	21	48%

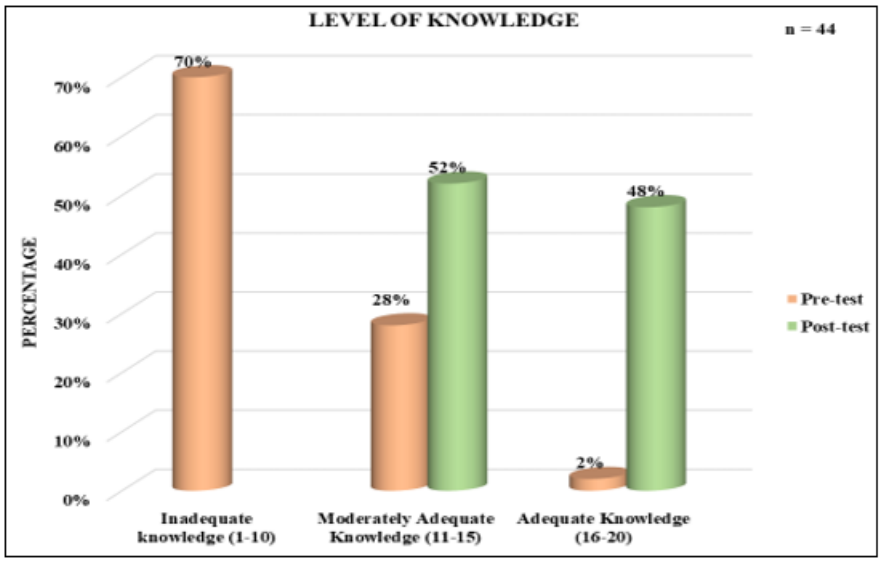

Figure 1: Cylindrical diagram showing percentage distribution of 1st year GNM students according to pre-test and post-test level of knowledge

Table 3: Effectiveness of Structured Teachi=ng Programme on Knowledge regarding Cardiopulmonary Resuscitation among 1st year GNM students, n=44

Level of Knowledge	Mean	SD	Mean Difference	df	"t" value	Tab value	Remark
Pre-test	9.61	2.13	5.27	43	10.56	2.28	S*
Post-test	14.88	2.35					

*p<0.05 level of significance S-Significant NS-Non – Significant

Data in Table 3 depicts that the calculated "t" value was 10.56 which was more than the tabulated value 2.28 (df=43) at p<0.05 level of significance. Hence the null hypothesis was rejected and research hypothesis was accepted which shows that structured teaching programme regarding Cardiopulmonary Resuscitation was effective in improving the knowledge among 1st year GNM students.

Table 4: Association between the level of knowledge regarding Cardiopulmonary Resuscitation among 1st year GNM student with selected demographic variables, n=44

Demographic Variables	Groups	Pre-Test Level of Knowledge			Total	χ^2 Value	Tab Value	df	Remarks
		Inadequate	Moderate	Adequate					
Age	18 – 20	18	5	0	23	2.05	5.99	2	NS
	21 years and above	13	7	1	21				
Gender	Female	28	9	1	38	1.89	5.99	2	NS
	Male	3	3	0	6				
Religion	Hindu	7	5	0	12	4.65	12.59	6	NS
	Muslim	4	0	0	4				
	Christian	12	3	1	16				
	Others	8	4	0	12				
Area of residence	Urban	28	9	1	38	2.45	5.99	2	NS
	Rural	3	3	0	6				
Previous knowledge	Yes	14	4	0	18	1.21	5.99	2	NS
	No	17	8	1	26				

S - Significant *p<0.05 level of significance NS - Non Significant

The data furnished in Table 4.3 were analyzed to find out the association between pre - test level of knowledge regarding Cardio-pulmonary Resuscitation among 1st year GNM students with selected demographic variables. The above value showed that there was no significant association level of knowledge regarding Cardiopulmonary Resuscitation among 1st year GNM students with their age, gender, religion, area of residence and previous knowledge.

6. Future Scope

Based on the findings of the study, the following recommendations are met:

- The study can be replicated on large number of samples in a different setting to have wider generalization of findings.
- A comparative study may be carried out to assess the knowledge on Cardiopulmonary Resuscitation on the sample drawn from different programmes in nursing and other health related professionals.

- A study can be conducted in an actual situation by observing the students nurses performing CPR in the clinical situation.

7. Conclusion

From the findings of the present study, it can be concluded that structured teaching programme regarding Cardio pulmonary Resuscitation was effective in increasing the knowledge knowledge among 1st year GNM students.

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Author Profile

Anita Shrestha received B.Sc Nursing and M.Sc Nursing Degree from CPMS college of Nursing in 2015 and 2022 respectively. During the period of 2016 – 2020 she had worked as Clinical Instructor, Staff Nurse and Nurse Educator. She is currently working as Lecturer, Medical Surgical Nursing at CPMS College of Nursing, Guwahati India. Email: – anitashresthanewari@gmail.com

Rishanborlang Suting passed HSLC from St. Anthony's Hr. Sc. School in 2014 and passed HSSLC from Umshyrpi College in 2017 from Shillong, Meghalaya. He is currently pursuing B.Sc Nursing course from CPMS College of Nursing.