

## PRACTICE REGARDING CARDIOPULMONARY RESUSCITATION AMONG NURSING STUDENTS

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### ABSTRACT

*Cardiac arrest is an important public health issue, accounting for 15-20% of all deaths. According to WHO, it is also a major cause of cardiovascular morbidity and mortality in both developed and developing countries. Cardiac If not treated immediately, a cardiac arrest can result in abrupt death. Survival is achievable with prompt and effective medical care. Cardiopulmonary resuscitation is a life-saving medical therapy for people who have had a sudden cardiac arrest. It is also done to manually preserve complete brain function until further efforts to restore normal unprompted blood circulation and respiration in cardiac arrest are conducted. **Objective:** To assess the practice regarding cardiopulmonary resuscitation among nursing students **Methods:** Descriptive research design was used. This study included 60 students. Practice checklist was used to assess the skill and chi-square test used to see the association between dependent and independent variables. **Result:** In this study, level of practice regarding cardiopulmonary resuscitation level of skills regarding cardiopulmonary resuscitation pretest level skills 10(100%) poor skills 50(83.33%) good skills. Age, Gender, religion, Course of study, Family history of cardiac disease, Aware about cardio pulmonary resuscitation, source of information regarding cardio pulmonary resuscitation, Classes on cardio pulmonary resuscitation within the last 6 months had shown no statistically significant association with the pretest levels of skills regarding cardio pulmonary resuscitation among students. **Conclusion:** Despite the fact that more than half of students had good skill, so students required proper skill development about cardio pulmonary resuscitation.*

**Keywords:** Practice , Nursing Students, Cardio Pulmonary Resuscitation.

## INTRODUCTION

Cardiac arrest is a significant public health problem projected to account for 15–20% of all deaths. Cardiac arrest is a major public health problem affecting thousands of individuals each year in both out-of-hospital and in-hospital settings. It is also recorded by WHO (2020) to be an important cause of cardiovascular morbidity and mortality in both developed and developing countries.<sup>1</sup> Cardiac arrest if not treated immediately, can cause sudden cardiac death. With fast and appropriate medical care, survival is possible. more than 3 million sudden cardiac deaths occur worldwide every year and survival is lower than 8%. Cardiopulmonary resuscitation is a lifesaving medical procedure for victims of sudden cardiac arrest,(America Heart Association,2017).<sup>2</sup>

It is also done in an effort to manually preserve complete brain function until further actions are taken to restore normal unprompted blood circulation and breathing in cardiac arrest. Combination of rescue breathing and chest compression which is delivered to the victim who is thought to be in cardiac arrest.<sup>3</sup> This, therefore, make it critical for all health care professionals especially nurses to have knowledge and competence in performing cardiopulmonary resuscitation (CPR) Cardiopulmonary resuscitation (CPR) knowledge in relation to standard care is fundamental in effective resuscitation performance.<sup>4</sup>

It has been estimated that more than 7,000,000 people die of sudden cardiac death per year worldwide. In India, the annual incidence of sudden cardiac death accounts for per 1000 population. Almost 2.6 million Indians are predicted to die due to coronary artery disease, in India by 2020. The incidence of sudden cardiac deaths is increased in the age group of 45-75 years. It is also seen that men have a higher incidence of cardiac arrest than females.<sup>5</sup>

Studies have shown that, in case of out- of- home cardiac arrest, bystanders, lay persons or family members attempt CPR in 14% to 45% of the time, and only half of bystanders perform CPR effectively. It was also found that when a cardiac arrest occurs in out of hospital setting, CPR was more commonly given by a bystander who has no connection to the victim than a member of his own family.<sup>6</sup> This is because a stranger can remain calm and think clearly when compared to a family member. Only a minority of bystanders will initiate CPR when a family member collapses in the home. The main reason for not performing CPR was fear of failing. The study highlighted that CPR courses are not reaching to those most likely to be called upon to use this skill.<sup>7</sup>

Their understanding of CPR could identify the quality of CPR provided, which could have an impact on the quality of treatment patients receive. The importance of health workers knowing how to administer basic life support cannot be overstated, as they frequently meet such situations in their practice. The goal of this study is to examine nurses' knowledge and practice of CPR, which will aid in understanding the gap and in developing future medical education training and capacity building among nurses.<sup>8</sup>

## METHODS

### Study area and period

The study was conducted in selected nursing colleges at Lucknow.

### Study design

The research design was used in this study descriptive research design.

### Population

#### Source population:

The source population was all nursing students

#### Study population:

All sampled nursing students during study period.

### Inclusion criteria and Exclusion criteria:

#### Inclusion criteria

- Available at the time of data collection
- Interested for study
- The students who can read and write Hindi or English

**Sample size:** 60 nursing students

### Sampling procedure

Non probability Convenience sampling technique

## Variables

### Independent variables

The independent variable in this study is Age, Gender, religion, Course of study, Family history of cardiac disease, Aware about cardio pulmonary resuscitation, source of information regarding cardio pulmonary resuscitation

### Dependent variables

The dependent variable in this study is practice of cardio pulmonary resuscitation

## Operational definition

1. Practice: In this study, it refers to the ability of students to perform cardio pulmonary resuscitation as measured by a checklist.
2. Cardio Pulmonary Resuscitation: In this study, it refers to an emergency procedure used to temporarily maintain blood oxygenation and tissue perfusion, as well as restore cardiac function, in a person who has suffered cardiopulmonary arrest.
3. Nursing Students: In this study, it refers to candidates studying degree and diploma course in selected nursing college.
4. Demonstration Method: in this study demonstration method in teaching can be defined as giving a demo or performing a specific activity or concept.

## Data collection instrument and procedure

Structured and semi-structured English version questionnaire was prepared from the literature review by principal -investigators. Translation to Hindi version and again translated to English version were used by the principal investigators before starting the data collection time. It includes about socio-demographic, and practice questionnaire.

**Data collection instrument and methods:-**The data collector was the group members. Face to face interview held privately after verbal consent is obtained from each participant. The data was collected until the required sample size achieved.

## Data processing and analysis

The coded data were entered to computer by using Statistical Package for Social Science (SPSS) version 25 statistical software for analysis. Cleaning were performed by using frequency

distribution .Any error were corrected after revision of the original data using the code numbers of the questionnaires. Frequencies were computed for description of the study population in relation to socio-demographic and other relevant variables. The association between independent and dependent variable determined by odd ratio with 95% CI and P- value less than considered as statistically significance. Chi-square test will be used to find association of the post-test anxiety score with selected demographic variables. In this study P-value < 0.05 was considered to declare a result as statistically significant association. The result presented by charts, figures, and tables.

## RESULTS

Descriptive and inferential statistics were used for analyzing the data on the basis of objectives of the study. The data has been tabulated and organized as follows.

**Table: I Frequency and percentage distribution of study samples according to the selected Demographic variables**

**N=60**

Demographic Variables		frequency	Percentage
Age in years	17-19	35	58.3
	20-22	6	10.0
	23-25	14	23.3
	>25	5	8.3
Gender	Male	24	40.0
	Female	36	60.0
Religion	Hindu	54	90.0
	Muslim	4	6.7
	Christian	2	3.3

<b>Course of study</b>	Diploma Nursing	10	15.4
	B.Sc Nursing	36	61.0
	P.B.Bsc Nursing	14	23.7
<b>Family history of cardiac disease</b>	Yes	18	30.0
	No	42	70.0
<b>Aware about cardio pulmonary resuscitation</b>	Yes	42	70.0
	No	18	30.0
<b>source of information regarding cardio pulmonary resuscitation</b>	Health personal	26	43.33
	Mass media	12	20.0
	Workshop	10	16.7
	Friend	10	16.7
	Neighbour	2	3.3
<b>Classes on cardio pulmonary resuscitation within the last 6 months</b>	Yes	20	33.3
	No	40	66.7
		<b>60</b>	<b>100</b>

Table 1 shows the frequency and percentage distribution of the demographic variables of students. According to their age majority 35(58.3 %) were in 17-19 years of age, 14(23.3%) were 23-25 years of age, 6(10%) were 20-22 years and 5 (8.3%) were more than 20 years of age. Regarding gender of students maximum 36(60%) were Female patients and 24(40%) were male. Regarding religion of students maximum 54(90%) belongs to Hindu, 4(6.7%) belongs to Muslim and 2(3.3%) belongs to Christian.

With regard to class of studying of students 36(61%) were bachelor of Nursing, 14(23.7%) belongs to post Basic Nursing, 10(15.4%) were Diploma Nursing.

Regarding Family history of cardiac disease of students maximum 42(70%) were no history of cardiac disease, 18(30%) yes about history of cardiac disease. According to aware about cardio pulmonary resuscitation students majority 42(70%) were aware about cardio pulmonary

resuscitation, 18(30%) were no aware about cardio pulmonary resuscitation.

Regarding source of information regarding cardio pulmonary resuscitation maximum 26(43.33%) were health personal, 12(20%) were mass media, 10(16.7%) were workshop, 10(16.7%) were friends and 2(3.3%) were neighbors.

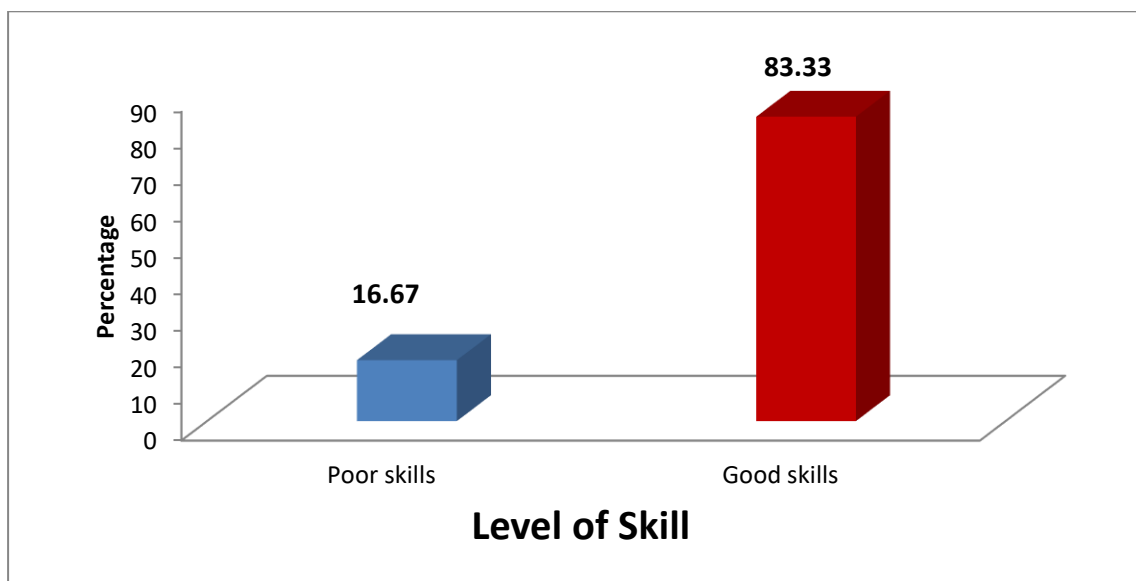
Regarding Classes on cardio pulmonary resuscitation within the last 6 months, 20(33.3%) were attended classes and 40(66.7%) were not attended classes.

**Table II: Assessment of levels of Skills among students regarding cardio pulmonary resuscitation.**

Levels of skills	Practice levels	
	Number	Percentage
Poor skills	10	16.67
Good skills	50	83.33
<b>Total</b>	<b>60</b>	<b>100.00</b>

P<0.05

The table 4 shows that assessment of pretest level of skills regarding cardiopulmonary resuscitation pretest level skills 10(16.67%) poor skills 50(83.33%) good skills.



**Fig: 1:Bar diagram showing students Level of skills**

**Table VIII: Association between levels of Practice and demographic profile or characteristics**

Demographic profile	Level of skills					df	P-value
	Poor skills	%	Good skills	%	Total		
<b>Age groups in Years</b>							
17-19	5	8.33	15	25	20	0.543	3 0.909 NS
20-22	4	6.66	10	16.66	14		
23-25	1	1.66	10	16.66	11		
>25	0	0.00	15	25	15		
<b>Gender</b>							
Male	4	6.66	26	43.33	30	0.045	1 0.832 NS
Female	6	10	24	40	30		
<b>Religion</b>							
Hindu	3	5	15	25	18	0.886	4 0.941 NS
Muslim	3	5	18	30	21		
Christian	4	6.66	17	28.33	21		
<b>Course of study</b>							
Diploma Nursing	3	5	18	30	21	1.047	1 0.306 NS
B.Sc Nursing	4	6.66	22	36.66	26		
Post B.Sc Nursing	3	5	10	24	13		
<b>Family history of cardiac disease</b>							
Yes	6	10	25	41.66	31	1.455	2 0.460 NS
No	4	6.66	25	41.66	29		



<b>Aware about cardio pulmonary resuscitation</b>								
Yes	5	8.33	30	50	35	0.207	1	0.649 NS
No	5	8.33	20	33.33	25			
<b>source of information regarding cardio pulmonary resuscitation</b>								
Health personal	2	3.33	10	24	12	0.425	3	0.903 NS
Mass media	3	5	15	25	18			
Workshop	2	3.33	10	24	12			
Friend	2	3.33	15	25	17			
Neighbor	1	1.67	0	0.0	1			
<b>Classes on cardio pulmonary resuscitation within the last 6 months</b>								
Yes	6	10	30	50	36	0.136	1	0.713 NS
No	4	6.66	20	33.33	24			

\*p<0.005\*indicates significant S-Significant NS-non significant

The table 8 showed that demographic variables Age, Gender, religion, Course of study, Family history of cardiac disease, Aware about cardio pulmonary resuscitation, source of information regarding cardio pulmonary resuscitation, Classes on cardio pulmonary resuscitation within the last 6 months had shown no statistically significant association with the pretest levels of skills regarding cardio pulmonary resuscitation among students. P<0.005.

**Competing interest:**

The authors report no conflicts of interest for this work.

**Authors’ contributions**

All authors were involved in the interpretation of the data and contributed to manuscript preparation. All authors have read and approved the final version of the manuscript

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