

## “Effectiveness of video assisted teaching programme on knowledge regarding cardio-pulmonary resuscitation among undergraduate college students in selected colleges at udaipur city, Rajasthan”

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**Abstract**– A quasi experimental One group pre-test post-test study to assess the effectiveness of video assisted teaching on knowledge regarding cardio-pulmonary resuscitation among undergraduate college students in selected colleges at Udaipur, Rajasthan The sample consisting of 140 undergraduate college students in selected colleges at Udaipur by using simple random sampling technique method. The tool comprised of by using structured knowledge questionnaire. The pretest was conducted and the video assisted teaching was administered .The post test was conducted after one week .The data obtained were analyzed by using differential and inferential statistics. The mean score of post-test knowledge 22.68) 75.62 (%was apparently higher than the mean score of pre-test knowledge 16.35 )54.50 (% , suggesting that the video assisted teaching was effective in increasing the knowledge of the undergraduate college students regarding cardio-pulmonary resuscitation . The mean difference 6.33 between pre-test and post-test knowledge score of the undergraduate college students was found to be significant.

**Key words** – Cardio-pulmonary resuscitation, one group pre –test post –test quasi experimental study and undergraduate college students.

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Date of Submission: 09-02-2018

Date of acceptance: 23-02-2018

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### I. Introduction

Sudden cardiac arrest is a leading cause of death among adults in the United States. Cardiopulmonary resuscitation dramatically increases the chance of survival for a victim suffering from SCA. CPR is a combination of chest compressions and breaths, and provides critical blood flow and oxygen to the heart and brain. If CPR is started within three to five minutes of collapse, it increases a victim's chance of survival and reduces the chance of permanent damage. This course follows the most recent and updated 2015 Emergency Cardiovascular Care and AHA guidelines, and has been designed to help you acquire the skills you will need to effectively respond in an emergency situation.<sup>1</sup> Cardiopulmonary resuscitation, or CPR, is a lifesaving technique. It aims to keep blood and oxygen flowing through the body when a person's heartbeat and breathing have stopped. It can be performed by any trained person. It involves external chest compressions and rescue breathing.<sup>2</sup> Basic life support is important for saving life demands only two hands and some basic knowledge. A qualified staff nurse can open airways, resuscitate, massage a heart and call for help. A person with cardiopulmonary resuscitation training can sustain an ailing person's heart and brain for a short time. However, knowledge of CPR guidelines and skills is not enough; medical and nursing practitioners must practice and train regularly to hone those skills.<sup>3</sup> According to WHO Cardio Vascular Diseases are the number 1 causes of death globally: more people die annually from CVDs than from any other cause. Nearly 17.7 million people died from cardiovascular disease in 2015, representing 31% of all worldwide deaths. It was estimated that 7.4 million deaths were due to coronary heart disease and 6.7 million were due to stroke. <sup>4</sup>In India one person dies in every 33 seconds from heart attack, according to a top city cardiologist, adding that the deadly condition is making

Indians its victim 10 years ahead of the people in the West. Dr Ashwani Mehta said that “India is currently witnessing nearly two million heart attacks a year and majority of the victims are youngsters”.<sup>5</sup>

Cardiopulmonary resuscitation (CPR) is a series of life-saving actions that improve the chances of survival, following cardiac arrest. Successful resuscitation, following cardiac arrest, requires an integrated set of coordinated actions represented by the links in the Chain of Survival. The links include the following: immediate recognition of cardiac arrest and activation of the emergency response system, early CPR with an emphasis on chest compressions, rapid defibrillation, effective advanced life support, and integrated post-cardiac arrest care. The newest development in the CPR guideline is a change in the basic life support sequence of steps from "A-B-C" (Airway, Breathing, Chest compressions) to "C-A-B" (Chest compressions, Airway, Breathing) for adults. Also, "Hands-Only (compression only) CPR" is emphasized for the untrained lay rescuer. High-quality CPR is the cornerstone of a system of care that can optimize outcomes beyond return of spontaneous circulation. The return to a prior quality and functional state of health is the ultimate goal of a resuscitation system of care.<sup>6</sup>

## II .Research Elaborations

Statement of problem –

“ A study to assess the effectiveness of video assisted teaching programme on knowledge regarding cardio- pulmonary resuscitation among undergraduate college students in selected colleges at udaipur city, Rajasthan”

## III .Objectives

1. To assess the pre - test knowledge score of the students on cardio – pulmonary resuscitation.
2. To administer video assisted teaching for students on cardio – pulmonary resuscitation.
3. To assess the post -test knowledge score of the students on cardio – pulmonary resuscitation.
4. To determine the effectiveness of video assisted teaching programme on cardio – pulmonary resuscitation.
5. To find out the association between pre – test knowledge with selected socio demographic variable.

## IV .Hypothesis

**H<sub>1</sub>**- There is significant difference between the pre-test and post-test knowledge scores regarding cardio- pulmonary resuscitation among undergraduate college students

**H<sub>2</sub>**- There is significant association between pre-test knowledge score with selected socio demographic variables.

## V .Materials And Methods

Population – Undergraduate students.

Sample– Undergraduate students in selected colleges at Udaipur, Rajasthan”.

Sample Size – 140.

Setting –**B.N.P.G. and M.V. Shramjeevi College**, Udaipur Rajasthan, India

The conceptual framework for the present study is based on WHO’s System Model

## VI .Research Design

The research design selected for the present study was a one group pre-test post-test research design

PRE-TEST	TREATMENT	POST –TEST
)Dependent variable(	)Independent variable(	)Dependent variable(
O1	X	O2
Knowledge of college students.	Video Assisted Teaching.	Knowledge of College students

**Table 1** :Quasi experimental one group pre and post-test research design

The interpretations of the symbol are as below:

- O1 - Administration of pre-test knowledge questionnaire  
O2 - Administration of post-test knowledge questionnaire  
X - Intervention, treatment )independent variable( i.e. Video Assisted Teaching

### **ETHICAL CONSIDERATION**

After obtaining permission from research committee of Geetanjali College of Nursing, prior permission was obtained from Dean B.N.P.G. and M.V. Shramjeevi College, Udaipur Rajasthan. Consent was taken from each participant who had participated in the study.

### **DESCRIPTION OF THE TOOL**

The structured knowledge questionnaire consisted of two parts i.e .Part -I & II .

Part -I :consisted of 7 items on socio- demographic data such as age in years, gender, religion, marital status, area of residence, educational qualification in stream, and source of information.

Part -II :consisted of 30 knowledge items .Each item was multiple choices in nature with 4 choices.

### **SCORING**

The knowledge of college students regarding the outcomes of cardio- pulmonary resuscitation was scored as follows, one mark for each correct answer and zero marks for incorrect answer .The maximum score was 30, to interpret level of knowledge the score was distributed as follows;

Interpretation of knowledge:

<b>Level</b>	<b>Range</b>
Inadequate knowledge	0-50 %
Moderate knowledge	51-75 %
Adequate knowledge	76-100 %

An answer key was prepared for scoring answer to the structured knowledge questionnaire.

### **DATA COLLECTION AND DATA ANALYSIS**

The data was presented under the following sections

Section-I :Description of socio-demographic variables of the respondents.

Section-II :Findings related to knowledge scores of respondents on cardio- pulmonary resuscitation

Section-III :Findings related to association between pre-test knowledge score and selected demographic variables of respondents.

## VII. Results

**Table 2:-** Area wise pretest and post test knowledge score of Respondents regarding cardio- pulmonary resuscitation

Area of Knowledge	Max. Score	Pre-test			Post-test		
		Mean score	Mean %	SD	Mean score	Mean %	SD
Introduction of cardiac arrest	7	4.39	62.75	1.40	5.9	85.30	0.92
Introduction of CPR	3	1.42	47.38	0.87	2.18	72.85	0.77
Indication of CPR	3	1.66	55.47	0.89	2.41	80.47	0.65
Procedure & step of CPR	6	3.20	53.45	1.29	4.62	77.14	0.98
CPR technique	8	4.18	52.32	1.48	5.81	72.67	1.37
Complication and after care of CPR	3	1.47	49.28	0.77	2.04	68.09	0.69
<b>Total</b>	<b>30</b>	<b>16.32</b>	<b>320.65</b>	<b>6.7</b>	<b>22.96</b>	<b>456.52</b>	<b>5.38</b>

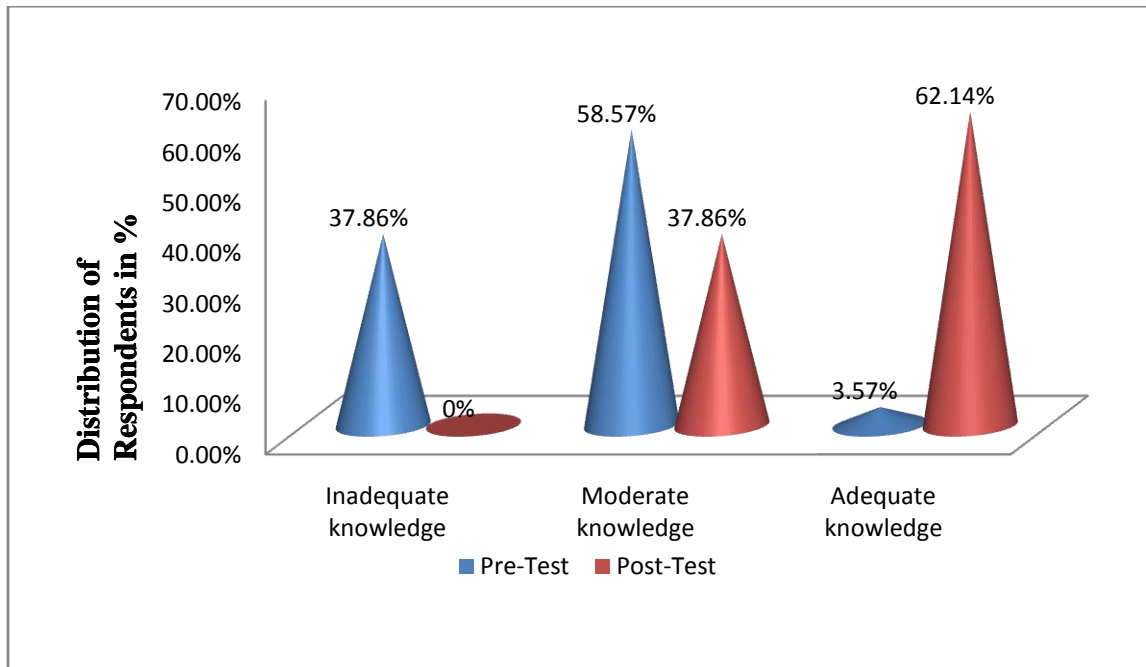
**N=140.**

**Table 2:** Depicts that the pre test highest mean percentage obtained by the respondents is 62.75% with SD of 1.40 in the aspect of Introduction to Cardiac Arrest, 55.47 % with SD .89 in the aspect of indication of CPR, 53.45% with SD 1.29 in the aspect of procedure, 52.32% with SD 1.48 in the aspect of CPR technique ,49.28 % with SD of .77 in the aspect of Complication and after care of CPR and 47.38 % with SD .87 in the aspect of introduction to CPR.

Depicts that the post test highest mean percentage obtained by the respondents is 83.30% with SD of .92 in the aspect of Introduction to Cardiac Arrest, 80.47 % with SD .65 in the aspect of indication to CPR, 77.14% with SD .98 in the aspect of procedure and steps of cpr, 72.85 % with SD of .77 in the aspect of introduction to CPR, 72.67 % with SD .87 in the aspect of CPR technique and 68.09 % with SD .69 in the aspect of complication and after care of CPR

**Table 3:-** Distribution of Respondents by the level of knowledge.

LEVEL OF KNOWLEDGE	FREQUENCY		PERCENTAGE	
	Pre test	Post test	Pre test	Post test
Inadequate knowledge (0-50%)	53	00	37.86%	00
Moderate knowledge (51-75%)	82	53	58.57%	37.86%
Adequate knowledge (76-100%)	5	87	3.57%	62.14%
<b>Total</b>	<b>140</b>	<b>140</b>	<b>100</b>	<b>100</b>



**Figure 1: Distribution of Respondents by the level of knowledge.**

**Table 3 & Figure 1:** The table represents the post test knowledge level of respondents regarding cardio-pulmonary resuscitation. The result showed that 37.86 % of the respondents had moderately knowledge and 62.14% of the respondents had adequate knowledge regarding cardio- pulmonary resuscitation

**Table 4:- Effectiveness of Video assisted teaching Cardio-pulmonary resuscitation programme by comparing pre-test and post-test knowledge score of respondents**

N=140

	Mean	Mean Percentage (%)	SD	Enhancement	Enhancement percentage (%)	Df	T	Inference
Pretest	16.35	54.50	4.05	6.33	22.12	139	33.15	S
Post test	22.68	75.62	2.91					

S = Significant

Table 4:- The result reveals that the mean post test knowledge score 22.68(75.62%) is greater than the mean pre test knowledge score 16.35(54.50%). The above table also depicts that the enhancement in the knowledge of respondents is 6.33 (22.12%) supporting the post test knowledge score are higher than the pretest knowledge score. The data further represent that the 't' value of 33.15 is significantly higher than the table value 1.96 at 0.05 level of significance. This indicates that there was difference in pre test and post tests knowledge score and further the data supports that video assisted teaching regarding cardio-pulmonary resuscitation is effective in improving the knowledge score of respondents.

**H<sub>1</sub>** - There is a significant difference between the pre and post test knowledge score of undergraduate students on cardio-pulmonary resuscitation. Hypothesis was tested at 0.05 levels. The calculated 't' value 33.15 is significantly higher than the table value 1.96 at 0.05 level of significance. This indicates that there is significant difference between the pre test and post test knowledge score hence the hypothesis H<sub>1</sub> is accepted.

**H<sub>2</sub>:** There is a significant association between pre-test knowledge score regarding cardio-pulmonary resuscitation with selected demographic variables.

The Chi-square test was carried out to determine the association between the pre test knowledge score and demographic variables such as age in years, gender, religion, marital status, area of residence, educational qualification in stream, and source of information.

Out of which Gender, religion, marital status, area of residence, source of information were found to be significantly associated with pre test knowledge at 0.05% level and the rest of the demographic variables were not significant. Hence research hypotheses H<sub>2</sub> is partially accepted.

### **VIII. Conclusion**

This study concludes that there is improvement in the level of knowledge of undergraduate college students which indicates that the video assisted teaching is effective. The demographic variables of undergraduate college students significantly associated with the pre test knowledge score. The development of video assisted teaching will help the undergraduate college students to enhance their knowledge

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Ruchir Joshi "“Effectiveness of video assisted teaching programme on knowledge regarding cardio-pulmonary resuscitation among undergraduate college students in selected colleges at Udaipur, Rajasthan”..” IOSR Journal of Nursing and Health Science (IOSR-JNHS) , vol. 7, no. 1, 2018, pp. 54-58.