

**A STUDY TO ASSESS THE EFFECTIVENESS OF VIDEO ASSISTED TEACHING PROGRAMME ON KNOWLEDGE REGARDING CARDIAC ARRHYTHMIA AMONG NURSING OFFICERS AT SELECTED HOSPITALS, IN MYSURU**Sanjana Limbu^{1*}, Latha S.²¹Lecturer, Vikram College of Nursing- Mysuru.²Vice-Principal and Guide, Gopala Gowda Shanthaveri Memorial College- Mysuru.

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**ABSTRACT**

The heart is considered the epicentre of emotions, ideas, and inspiration. According to the Indian Council of Medical Research, cardiovascular diseases significantly affect mortality and morbidity, with about 2.6 million people in India expected to die from cardiovascular illnesses between the ages of 30 and 69 years. Cardiovascular disease is one of the leading causes of death in India, and its prevalence increases with age. Among these conditions, cardiac arrhythmias are a major cause of death in patients with cardiovascular diseases and contribute significantly to sudden cardiac deaths worldwide. Cardiac arrhythmia occurs due to disturbances in the heart's electrical conduction or automaticity, leading to abnormal heart rate and rhythm. The Electrocardiogram is one of the most important diagnostic tools used in modern medicine to evaluate arrhythmias. Nurses working in cardiac and critical care units are frequently exposed to emergency situations and play a crucial role in detecting and managing arrhythmias. As they are often the first responders during cardiac arrest, it is essential that they receive adequate training to effectively handle such situations.

KEYWORDS: Assess, Effectiveness, Knowledge; Video Assisted Teaching, cardiac arrhythmia, Nursing officers.

INTRODUCTION

Heart is stunning faithful creation of nature. Health accompanies us throughout our lives. It is so central to human existence that for much of recorded history, it has served as a symbol of not only life but also love, emotion, intelligence, and reason. The defining characteristic of the human heart is its tireless beating, a constant rhythmic contraction to life that serves the all-important purpose of circulating blood through the bodies.

Heart disease is considered one of the riskiest and life seizing chronic diseases all over the world. In heart disease, normally the heart fails to supply sufficient blood to other parts of the body to fulfil their normal functionality. A recent survey reveals that the United States is the most affected country by heart disease

where the ratio of the heart disease patients is very high.^[1]

The American Heart Association states that that sudden cardiac death is a major contributing factor to the incapacitating effects of cardiac arrhythmias. An estimated 330 to 350 fatalities worldwide are attributable to cardiac arrhythmias annually. There are 53 arrhythmia-related fatalities for every 1,000 cardiac deaths. Research was done on the prevalence and prognosis of persistent arrhythmias in the ICU population. According to reports from France, 1,341 patients in all. In the same hospital, the proportion of patients who died were 17 percent for those without arrhythmias, 29 percent for those with supraventricular arrhythmias, 73% for those with ventricular arrhythmias,

and 60 percent for those with other conduction abnormalities.^[2]

The prevalence of cardiac arrhythmias, electrical heart conduction system diseases, and other cardiovascular diseases (CVD), in general, is increasing worldwide. Cardiac arrhythmias are defined as a disturbance in the normal heart electrical conduction system, resulting in ineffective cardiac pumping, unstable hemodynamic, or cardiac arrest events. Cardiac arrhythmia is one of the leading causes of death globally. In 2016, the World Health Organization (WHO) estimated that 31% (17.9 million) of all global deaths were caused by CVDs.^[3]

The word Cardiac Arrhythmia was derived from Latin word "Cardiac" means heart, "A" means disturbance, distortion, or without and "Rhythmia" means to measure continuous normal rhythm. Cardiac Arrhythmia is also known as Heart Arrhythmia, Heart Rhythm Disorder or Rhythm Disorder, Cardiac Arrhythmia is an irregular heart rate, rhythm or both. Arrhythmias are used when there is abnormality in the conductive system of the heart. Major elements in the conductive system of the heart are sinus node, atrioventricular node and the autonomic nervous system that keeps the normal conduction of the heart.^[4]

The main important cause of it is: genetics, hypertension, diabetes, heart attack, scarring of heart tissue, changes to heart structure, sleep apnoea, smoking, drinking too much alcohol, drug abuse, stress or anxiety. The main types are Sinus tachycardia, Sinus bradycardia, Atrial fibrillation, Supraventricular tachycardia, Heart block, Ventricular fibrillation.^[5] It may cause sudden death, syncope, heart failure, dizziness, palpitation or no symptoms at all.^[6] The observable symptoms include fluttering chest, tachycardia, bradycardia, chest pain, shortness of breath and other symptoms may include anxiety, fatigue, dizziness, sweating, syncope. The main complication of arrhythmia are heart failure and stroke.^[7]

Arrhythmias are identified by examining the electrocardiographic waveform. It differs in severity, from those that are mild with no symptoms and requires no much treatment, such as sinus arrhythmia, in which heart rate increases with respiration to catastrophic ventricular fibrillation, which requires immediate resuscitation. Pharmacological rate control is usually achieved by suppression of calcium currents or by

application of common drugs such as β -blockers or digitalis compounds. Dronedronone is a new antiarrhythmic drug that has been developed to provide rhythm and rate control. Angiotensin-converting enzyme inhibitors, angiotensin II receptor blockers, and statins may be considered for primary prevention in patients with concomitant structural heart disease or for secondary prevention in cases of recurrent AF despite antiarrhythmic drug therapy.^[8]

Electrocardiogram (ECG) is a valuable non-invasive diagnostic tool for rapid identification of many heart diseases, especially electric-cardiac arrhythmias and acute coronary syndrome. ECG monitoring is commonly indicated for patients who have a risk of arrhythmias or suspected ischemic heart disease. Nurses play a critical role in providing care in critical care settings such as the emergency department (ED), intensive care unit (ICU), and cardiac care unit (CCU). Usually, patients in these departments require ECG monitoring. Thus, they are required to have sufficient knowledge and skills to provide comprehensive and safe healthcare for all patients with different cardiac diseases, particularly the critically ill in hospitals.^[9]

METHODS

One group pre-test and post-test design was used to assess the effectiveness of VAT in improving the knowledge of nursing officers regarding cardiac arrhythmia. Reliability of the tool was tested and validity was ensured in consultation with guides and experts in the field of statistics, medicine and nursing. The study was carried out in selected hospital, Mysuru. 224 nursing officers were selected by non-probability convenient sampling technique. Questionnaire was administered to collect the needed data. Data was analysed by using descriptive and inferential statistics.

RESULT AND DISCUSSION

ORGANIZATION OF THE FINDINGS

The analysis of the data was organized and presented as follows.

Section A: Sample characteristics.

Section B: Knowledge of nursing officers regarding cardiac arrhythmia.

Section C: Effectiveness of video assisted teaching programme regarding cardiac arrhythmia.

Section D: The association between pre-test knowledge scores and demographic variables.

Table 1: Table: 1 Distribution of frequency and percentage analysis of demographic variables n= 224.

SL NO	Demographic variables	Variables	Frequency	Percentage
1.	Age (in years)	21-30	172	77%
		31-40	36	16%
		>40	16	7%
2.	Gender	Male	23	10%
		Female	201	90%
3.	Religion	Hindu	176	79%

		Christian	12	5%
		Muslim	20	9%
		Others	16	7%
4.	Professional qualification	Diploma in GNM	184	82%
		Basic B.Sc Nursing	28	13%
		Post Basic B.Sc Nursing	12	5%
5.	Year of experience	<1	41	18%
		1-10	147	66%
		11-20	31	14%
		>20	05	2%
6.	Previous exposure to in-service education programme	Yes	158	71%
		No	66	29%

TABLE-2 reveals that 172(77%) samples were in the age group between 21-30 years, 36(16%) samples were in the age group between 31-40 years, and 16(7%) samples were in the age group of >40 years.

Distribution of sample based on gender shows that 23(10%) samples were male and 201(90%) samples were female.

Distribution of sample based on religion shows that 176(79%) samples were Hindu, 12(5%) samples were Christian, 20(9%) samples were Muslim, and 16(7%) samples were other religion.

Distribution of samples based on professional qualification shows that 184(82%) were Diploma in

GNM, 28(13%) were Basic B.Sc. Nursing and 12(13%) were Post Basic B.Sc. Nursing.

Distribution of sample based of years of experience shows that 41(18%) had<1 year of experience, 147(66%) had 1-10 years of experience, 31(14%) had 11-20 years of experience and 5(2%) samples had >20 years of experience.

Distribution of samples based on previous exposure to in-service education programme shows that 158(71%) samples had attended in-service programme and 66(29%) samples had not attended in-service programme regarding cardiac arrhythmia.

Section-B: Knowledge of samples regarding cardiac arrhythmia

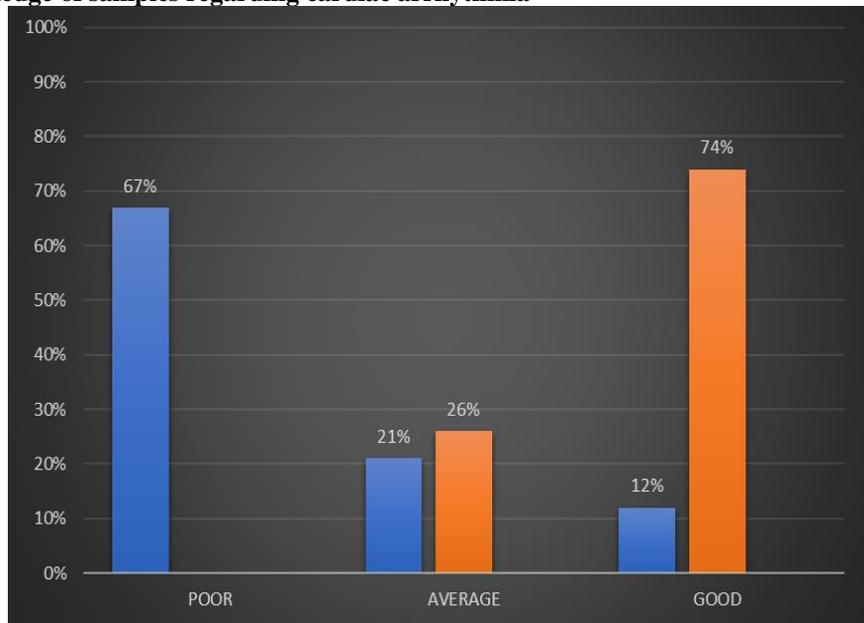


Fig 3: Distribution of samples according to pre-test and post-test knowledge score.

Finding reveals that in pre-test 149(67%) samples had poor knowledge, 47(21%) samples had average knowledge and 28(12%) samples had good knowledge regarding cardiac arrhythmia. In post-test 59(26%) had average knowledge and 165(74%) had good knowledge regarding cardiac arrhythmia.

Section C: Effectiveness of video assisted teaching regarding cardiac arrhythmia nursing officers

The 't' value was computed to determine the effectiveness of VAT regarding cardiac arrhythmia among nursing officers. The following research hypothesis was stated.

H₁: There is a significant difference between mean pre-test and mean post-test knowledge score.

H₂: There is an association between pre-test knowledge score and selected demographic variables.

Table 3: Table 2. Effectiveness of video assisted teaching.

Knowledge Assessment	Mean	Mean Difference	SD	Df	Paired 't' value	Tab Value
Pre test	11.58		4.311		8.03	1.962
Post test	21.71	10.13	1.47	223		

Significance at 5% level

The mean post-test knowledge score (21.71) was greater than the mean pre-test score (11.58). The mean difference between pre-test score (10.13) were

significant at 5% level as 't' = 38.03 (*p < 0.05). This indicate that the VAT regarding cardiac arrhythmia among nursing officers was effective. Hence research hypothesis H₁ was not rejected.

Association between pre-test knowledge score with demographic variables

Table 3: Association between pre-test knowledge score with demographic variables.

Sl no	Variables	Poor	Average	Good	χ ²	df	Table value	Remarks
1.	Age in years	21-30	120	28	5.81	4	9.49	NA
		31-40	20	13				
		>40	11	3				
2.	Gender	Male	13	7	1.48	2	5.99	NA
		Female	136	40				
3.	Religion	Hindu	121	32	5.81	6	12.59	NA
		Christian	5	5				
		Muslim	12	6				
		Others	11	4				
4.	Professional qualification	GNM	119	38	6.71	4	9.49	NA
		Basic B.Sc(N)	20	8				
		PBBSc(N)	10	1				
5.	Total experience in years	<1	24	14	15.94	6	12.59	A
		1-10	104	20				
		11-20	18	11				
		>20	3	2				
6.	Previous exposure to in-service education programme regarding cardiac arrhythmia	Yes	101	35	2.28	2	5.99	NA
		No	49	11				

Table-4 findings reveals that the chi-square value of age(χ²=5.81), gender(χ²=1.48), religion(χ²=5.81), professional qualification(χ²=6.71), total experience(χ²=15.94), previous exposure to in-service education programme regarding cardiac arrhythmia(χ²=2.28), were not significant at 5% level of significance. Hence research hypothesis H₂ was rejected.

CONCLUSION

The study was conducted to assess the effectiveness of video assisted teaching programme on knowledge regarding cardiac arrhythmia among nursing officers. The following conclusion were made on the basis of the findings of the study. The knowledge of nursing officers regarding cardiac arrhythmia was inadequate when assessed pre-test, whereas the knowledge level has improved during the post test. VAT regarding cardiac arrhythmia was effective.

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