Original Research Article

A study to assess the effectiveness of Video Assisted Teaching Module on knowledge regarding ECG changes in Cardiac Arrhythmias among staff nurses at Rama Hospital

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Abstract

Arrhythmias are almost universal obvious important disease condition which needs to be more focused because they carry a high mortality rate. The study aimed to assess the effectiveness of video assisted teaching module on knowledge regarding ECG changes in cardiac arrhythmias among staff nurses in Rama Hospital. A pre experimental one group pre-test post-test design was used for the study. A non probability convenient sampling technique was used. Sample size was 50. Self structured questionnaire was used to collect the data. Data was analyzed by using descriptive and inferential statistics. The results shows that in knowledge scores at the time of pre-test 78% of subjects were having poor knowledge 22% were having average knowledge and no one staff nurses were in good knowledge category. At the time of post-test 70% of subjects were having average knowledge and 30% subjects were having good knowledge and no one staff nurses were in poor knowledge category. The test statistics value of the paired t test was 19.74 with p value 0.00. Shows that planned video assisted teaching module was effective. For the variables like qualification and work experience the p value of the association test with knowledge was less than 0.05 concludes that there was significant association of these demographic variables with knowledge of the staff nurses. The finding reveals that the video assisted teaching module was effective in increasing the knowledge of staff nurses.

Keywords: arrhythmias, mortality, video assisted teaching module.

1 Introduction

In modern times nurses play an important role to manage patient and their health in the hospital as well in the community. A complex approach to the care of the patient is very necessary to deal with the emergency and life threatening situation.

According to Nancy when the rate rhythm or contour of any of the individual wave of Electro Cardiogram (ECG) is abnormal the disorder is called arrhythmias. Development of arrhythmias is one of the most common complications in patients with acute myocardial infarction [1].

Cardiovascular disease is the commonest cause of death globally and account for approximately 12 million deaths annually. Arrhythmias among Asian Indian have been found to be more severe diffuse and associated with severe complications and increasing mortality at a young age. Developing countries account for 80% of the burden [2].

Arrhythmias are important cause of preventable death in the developing world. The majority of these arrhythmias can be the initial manifestation of coronary artery disease in many patients. Inadequate recognition and management of coronary artery disease and its risk factors in developing countries adversely impacts on their prevalence [3].

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Electrocardiography (ECG) is the simple noninvasive procedure which has no side effects. It records even slightest variations in the conduction mechanism of the heart that helps the care givers to identify the abnormalities. Various conditions which can be identified through ECG are heart wall hypertrophy valvular diseases and dysrhythmia. Electrocardiography is the most commonly performed cardiac test and as an ongoing procedure. ECG is a very useful screening tool for a variety of cardiac abnormalities. ECG machines are readily available in most medical facilities and the test is simple to perform risk free and inexpensive [4].

Cardiac arrhythmias are the most common problems encountered in the coronary care unit (CCU) and represent a major source of hospital morbidity. Arrhythmias are dangerous conditions because they may lead to sudden death or heart failure therefore an accurate and early identification and with prompt interpretation of arrhythmia are observed to be the important life saving measures. This depends on knowledge of the nurses about conduction system electro cardio-physiologic principles and process of analyzing electrocardiogram (ECG). It also reflects on the action undertaken by the nurses based on their professional training and experience. So professional standards of care needs to be revised periodically and implemented to ensure effective and safe care [5].

2 Objectives

- To assess pre-test knowledge of staff Nurses on ECG changes in arrhythmias.
- To assess the effectiveness of Video Assisted Teaching module by comparing pre and post-test knowledge score.
- To determine the association between knowledge of staff nurses on ECG changes in arrhythmias with selected demographic variables.

3 Hypothesis

H1: There is a significant mean difference between pre and post-test knowledge level on ECG changes in arrhythmias among staff nurses.
H2: There is a significant association between knowledge regarding ECG Changes in arrhythmias with selected demographic variables.

4 Methodology

Research Approach: Quantitative Evaluative Approach.
Research design: One group Pre-test and post-test design was used. This design helps in assessing the effectiveness of video assisted teaching module on knowledge of regarding ECG changes in cardiac arrhythmias among staff nurses in Rama Hospital Kanpur.
Setting: The present study was conducted in Rama Hospital Kanpur.

Variable

Independent variable: In this study the video assisted teaching module on ECG is the independent variable.
Dependent variable: The dependent variable is the knowledge level of nursing students regarding ECG interpretation of arrhythmias.

Population:

The population selected for the present study comprised of Staff nurses (GNM, P.B. B.Sc Nursing Basic B.Sc Nursing) Rama Hospital Kanpur.
Sample: The sample consisted of 50 staff nurses of Rama Hospital.
Sample technique: Non-probability convenient sampling technique was used.

Sample criteria

Inclusion criteria
Staff Nurses those who are willing to participate in the research study.
Exclusion criteria
Other paramedical Staff & ANM Nurses

5 Description of instruments

The following instruments were used based on objectives.

- Demographic data of staff nurses of Rama Hospital.
- Self structured knowledge questionnaire on ECG changes in cardiac arrhythmias.

Knowledge Score	Range (%)	Category
0-13	0 - 52%	In adequate knowledge
14-20	56% - 80%	Moderately adequate knowledge
21-25	84% - 100%	Adequate knowledge

6 Data Collection

The data collected of the study was classified organized and analyzed under following sections:-
Section I: Deals with analysis of demographic data of staff nurses of RAMA hospital Kanpur UP in terms of frequency and percentage.
Section II: Deals with analysis of data related to assessment of the knowledge of staff nurses in terms of frequency and percentage.
Section III: Deals with analysis of data related to comparison of the Knowledge in terms of mean for pre and post-test.
Section IV: Deals with analysis of data related to the association of knowledge with selected demographic variables.

7 Results

Section I: Out of 50 samples, according to age most of them 72% were in age group 20-24 years 22% were in 26-30 years 4% were in 36-40 years and 2% of them were in 31-35 years of age group. With gender 74% staff nurses in the RAMA hospital were females and 26% staff nurses were males. According to Qualification 56% staff nurses completed GNM course 34% basic B.Sc nursing and 10% were completed P.B.B.Sc. 56% staff nurses had the experience of work less than 2 years and 44% had the experience in the group 3-5 years and no one had the experience above 6 years. According to place of work 48% of the staff nurses working at general medicine ward 30% working at general surgery ward 14% working at ICU and 8% at casualty ward.

Section II

Table 1: Pre- and Post-knowledge assessment of the Staff nurses (N = 50)

Knowledge Groups		Pre -Test		Post -Test	
		Freq	Percen	Freq	Percen
Inadequate	0-8	39	78.00	0	0.00
Moderately Adequate	9-16	11	22.00	35	70.00
Adequate	17-25	0	0.00	15	30.00

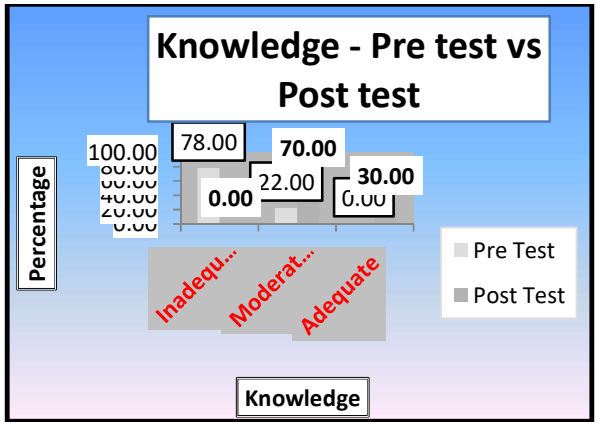

Figure 1: Bar diagram shows Pre and Post Knowledge Assessment of the Staff nurses

Bar Diagram depicts that at the time of pre-test 78% of subjects were having inadequate knowledge 22% were having moderately adequate knowledge and no one staff nurses were in adequate knowledge category. Average score at the time of pre-test was 9.4.

Table 2: The mean pre and post-test Knowledge (N=50)

Test	N	Mean	S.D.
Pre -Test	50	9.4	3.12
Post -Test	50	19.64	1.68

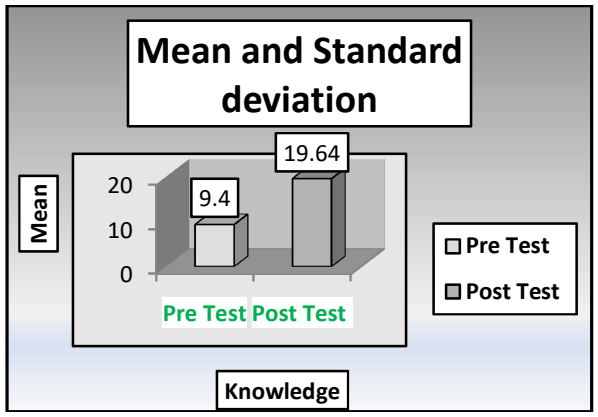

Figure 2: (Column dig.) The mean pre and post-test Knowledge

Column diagram depicts that pre-test average score was 9.4 with standard deviation of 3.12. The post-test average score was 19.64 with standard deviation of 1.68. At the time of posttest 70% of subjects were having moderately adequate knowledge and 30% subjects were having adequate knowledge and no one staff nurses were in inadequate knowledge category. Average score at the time of Posttest was19.64.

Section III: Deals with analysis of data related to effectiveness of VATM on Knowledge of ECG changes in cardiac arrhythmias.

Table 3: Effectiveness of VATM on Knowledge of ECG changes in cardiac arrhythmias (N = 50)

Test	N	t value	t table value	P value
Pre -Test	50	19.74	2.01	0.000
Post- Test	50			

The table value was 2.01 at 49 degrees of freedom. The test statistics value of the paired t test was 19.74 with p value 0.00. Here t calculated value is greater than the t table value so accept the hypothesis

Section IV: For the variables Qualification & Experience the p value of the association test with the pre-test knowledge was less than 0.05. So accept the hypothesis and concludes that there was significant association of these variables with knowledge of staff nurses for the variables Age Gender and place of work the p value of the association test with the pre-test knowledge was more than 0.05. H_2 is accepted

8 Implications

The present study has several implication in Nursing service Nursing education Nursing research and Nursing administration.

Nursing Service: Conduct teaching programs among staff nurses regarding ECG changes in arrhythmias.

Nursing Education: The findings of the present study can be a foundation for conducting the study on large section of population.

The studies can be baseline for the future studies to buildup and motivate to conduct further studies.

Nursing Research: The finding can be utilizes for conducting research on the effectiveness of VATM on various ECG changes of arrhythmias.

The finding can be used to plan further research in the area.

Nursing Administration: The Nurse administrator may allocate resources and provide motivation for further study in ECG changes in arrhythmias.

9 Recommendations

A comparative study can be conducted to identify the difference between Staff Nurses and Student Nurses knowledge level regarding ECG changes in arrhythmias.

An experimental study can be conducted with control group.

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