A Study to Assess the Effect of Structured Teaching Program and Demonstration on Knowledge Level Regarding Electrocardiogram Procedure among Staff Nurses Working at Selected Hospital, Barabanki

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ABSTRACT

A study to assess the effect of structured teaching program and demonstration on knowledge level regarding Electrocardiogram procedure among staff nurses working at selected hospital, Barabanki. The samples were 30 staff nurses, selected by convenient sampling from hind Hospital, Lucknow. Pre-experimental one group pre-test post-test design was used in the study. The data was collected by administering structured knowledge questionnaire followed by structured teaching program on knowledge regarding legal and ethical aspects. After 7 days, post-test was done to assess the effect of STP. The study concluded that there is a need to educate the staff nurses about the Electrocardiogram in nursing.

KEYWORDS: Effect, Structured Teaching Programme, demonstration, Knowledge, Electrocardiogram, Staff Nurse

1. INTRODUCTION

ECG is the most commonly used diagnostic test in cardiology. An ECG is a recording of waveforms that reflects the electrical activity of the heart. An Electrocardiogram is a graphic record of the electrical impulses that are generated by depolarization & repolarization of the myocardium.

The standard electrocardiogram (ECG) provides 12 different vector views of the heart's electrical activity as reflected by electrical potential differences between positive and negative electrodes placed on the limbs and chest wall. Six of these views are vertical (using frontal leads I, II, and III and limb leads aVR, aVL, and aVF), and 6 are horizontal (using precordial leads V1, V2, V3, V4, V5, and V6). The 12-lead ECG is crucial for establishing many cardiac diagnoses (see table Interpretation of Abnormal ECGs), including Arrhythmias, Atrial enlargement Conditions that predispose to syncope or sudden death (eg, Brugada syndrome, long QT syndrome, Wolff-Parkinson-White syndrome) Myocardial ischemia

2. Review of literature
In this present study the review of literature is organized under the following sections:
➢ Literature related to knowledge and practice of ECG procedure
➢ Literature related to effectiveness of STP on knowledge level regarding

3. Problem statement
"A study to assess the effect of structured teaching program and demonstration on knowledge level regarding Electrocardiogram procedure among staff nurses working at selected hospital, Barabanki."

4. Objective
➢ Assess the knowledge level regarding Electrocardiogram procedure among staff nurses.
➢ Evaluate the effect of Structured Teaching Program on knowledge level regarding Electrocardiogram Procedure among staff nurses.
➢ Association of knowledge level with selected demographic variables among staff nurse.

5. Hypothesis
H1- There will be significant difference between the Pre-test and post-test knowledge level level on electrocardiogram among staff nurses at level of 0.05.

H2- There will be significant association between selected socio demographic variables of staff nurses and pre-test knowledge level on electrocardiogram.

6. Research Methodology

Research Approach	Quantitative research approach
Design	Pre experimental design
Setting	Hind hospital
Population	**Staff nurse**
Sample Size	30
Sample technique	Non-probability convenience sampling techniques.
Tool	Structured questionnaire

7. Development and description of the tool
Data collection instrument consists of following sections:

PART I: Demographic profile:
It consists of demographic variables like Age, Gender, Qualification, Area of working, Years of experience and previous knowledge.

PART II: Structured knowledge questionnaire regarding Electrocardiogram procedure.

8. Data analysis and interpretation
The collected information was organized and the results are presented in 4 sections:
PART I: Distribution of demographic characteristics of staff nurses.

PART II: Assessment of knowledge level regarding Electrocardiogram procedure among staff nurses.

PART III: Analysis of effect of Structured Teaching Program on knowledge level regarding Electrocardiogram procedure among staff nurses.

PART IV: Association between pre-test and post –test knowledge level with selected demographic variables among staff nurses.

PART I: Distribution of Demographic Characteristics of Staff Nurses.

Table1: Frequency and Percentage Distribution According to Demographic Characteristics of the Staff Nurses.

n=30

S.NO	DEMOGRAPHIC DATA	CATEGORY	FREQUENCY (N)	PERCENTAGE (%)
1	Age	20years-29years	10	33.3
		30years-39years	11	36.7
		40years-49years	7	23.3
		≥50years	2	6.7
2	Gender	Male	4	13.3
		Female	26	86.7
3	Qualification	G.N.M	15	50
		P.B.BSc.Nursing	7	23.3
		B.Sc.Nursing	8	26.7
4	Area of working	OPD	3	10
		Emergency ward	3	10
		General ward	6	20
		Other	18	60

5	Years of experience	Less than 1years	4	13.33
		1-5years	6	20
		More than 5-10years	11	36.7
		More than 10years	9	30
6	Previous knowledge	No	24	80
		Yes	6	20

PART II: Assessment of knowledge level regarding Electrocardiogram procedure among staff nurses.

Table 2: Assessment of Knowledge of staff nurses regarding Electrocardiogram procedure among staff nurses.

n=30

LEVEL OF KNOWLEDGE	SCORE	FREQUENCY	PERCENTAGE
Inadequate	0-7	4	13.3%
Moderate	8-14	26	86.7%
Adequate	15-20	0	0

The table above shows the pre-test knowledge score of 30 subjects, 4 (13.3%) had inadequate knowledge, 26 (86.7%) had moderate knowledge.

Table 3: Assessment of Knowledge level of staff nurses regarding Electrocardiogram procedure among staff nurses.

n=30

LEVEL OF KNOWLEDGE	SCORE	FREQUENCY	PERCENTAGE
Inadequate	0-7	0	0
Moderate	8-14	10	33.3%
Adequate	15-20	20	66.7%

The table above shows the post-test knowledge score of 30 subjects, 10 (33.3%) had moderate knowledge and 20 (66.7%) had adequate knowledge.

PART III: Analysis of effect of Structured Teaching Program regarding Electrocardiogram procedure among Staff Nurses.

Table 4: Analysis of mean, SD and mean percentage of pre-test and post-test knowledge score.

n=30

Total	Min- Max score	Pre-test knowledge			Post-test knowledge		
		Mean score	Percentage	SD	Mean score	Percentage	SD
	0-30	10.30	34.3%	1.70	15.06	50.2%	1.41

The above table displays the comparison of mean, SD and percentage of pre-test and post-test knowledge scores. It reveals that the mean percentage of pre-test score was 34.3% with total mean and SD 10.30 ± 1.70, which was increased in post-test as mean percentage score of 50.02% with total mean and SD 15.06 ± 1.

Table 5: Comparison of pre-test and post-test knowledge scores among staff nurses regarding Electrocardiogram procedure using Paired t- test.

Category	Mean	SD	Mean difference	Df	Paired t value	P value
Pretest	10.30	1.70	4.76	29	23.35	.000
Posttest	15.06	1.41				

**Significance at 0.05 level

The above table shows the comparison of knowledge regarding Electrocardiogram procedure among staff nurses before and after Structured Teaching Program. The mean pre-test knowledge score regarding Legal and Ethical Aspects was 10.30 with a standard deviation of 1.70. After giving STP the mean score was increased to 15.06 with a standard deviation of 1.41. Increased in knowledge score was statistically tested by paired t test. The calculated t value 23.35 is significant with the degree of freedom of 29 at p<0.05 which shows that STP was effective for improving the knowledge among staff nurses.

PART IV: Association of Pre-test and post Knowledge among Staff nurses with Selected Demographic variables.

**NS-Not Significant

The association of pre-test knowledge score of staff nurses with selected demographic variables like Age, Qualification, Area of working, Years of experience in clinical area. The association was statistical tested by chi square. It indicated that the chi square values computed between the knowledge score and age (χ^2 =7.31), qualification (χ^2 = 4.57), area of working (χ^2 = 2.58), and years of experience (χ^2 = 5.43) were found to be statistically non-significant at 0.05 level of significance.

The association of post-test knowledge score of staff nurses with selected demographic variables like Age, Qualification, and Area of working, years of experience in clinical area. The association was statistically tested by chi square. It indicated that the chi square values computed between the knowledge score and age (χ^2 =1.79), qualification (χ^2 = 6.06), area of working (χ^2 = 0), and years of experience (χ^2 = 1.58) were found to be statistically non-significant at 0.05 level of significance.

9. Discussion

In the present study, on assessing the pre-test knowledge level of staff nurses regarding Electrocardiogram procedure, 4(13.3%) had inadequate knowledge, 26 (86.7%) had moderate knowledge and no one had adequate knowledge.

The second objective of the study states that to assess the effectiveness of Structured Teaching Program on knowledge level regarding Legal and Ethical Aspects among Staff nurses.

The mean pre-test score regarding legal and ethical aspects was 10.30 and in the post-test 15.06. The overall improvement was significant at P<0.05. This result shows that there is significant improvement in knowledge level of staff nurses in post-test after structured teaching program.

10. Conclusion-

The difference between pre-test and post test score revealed that structured teaching program is effective in improving knowledge regarding Electrocardiogram procedure.

11. Reference
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