

# “A Study To Evaluate The Effectiveness Of Structured Teaching Programme On Knowledge Regarding Cardiac Rehabilitation Program Among Staff Nurses At Selected General Hospital In Karad”

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## Abstract

### Background

Cardiac rehabilitation is the restoration of a person to optimal state of function in 6 areas; physiologic, Mental, Spiritual, Economic and Vocational. **Objectives:** To assess the level of knowledge of staff nurses regarding cardiac rehabilitation. To evaluate the effectiveness of structured teaching programme (STP) on knowledge regarding cardiac rehabilitation program. To find out the relationship between the Pre-test knowledge score and Post-test knowledge scores **Material & Methods:** An evaluative approach and one group pre test post test design was used to evaluate the knowledge regarding cardiac rehabilitation program among staff nurses in selected hospitals, Karad. The study was carried out in Krishna Hoapital & Medical Research Center, Karad and 60 staff nurses were selected by non probability purposive sampling technique. statistics. Reliability of the tool was tested and validity was ensured in consultation with guides and experts in the fields of medicine and nursing.

**Results:** In pre test, out of 60 subjects, majority 39(65%) of the respondents had inadequate knowledge, only 21(35%) had moderate knowledge but none of them had adequate knowledge.

In post test, majority of them 39(65%) of the respondents had adequate knowledge regarding cardiac rehabilitation program among staff nurses, 21(35%) had moderate knowledge but none of them had inadequate knowledge.

**Conclusion:** The findings revealed that there is adequate level of knowledge of staff nurses regarding cardiac rehabilitation program.

**Key Word:** Effectiveness, structured teaching programme, Knowledge, staff nurses, cardiac rehabilitation program

## Introduction

Cardiac rehabilitation is an outpatient program of exercise and education. Cardiac rehabilitation is designed to help to recover from a heart attack, other forms of heart disease or surgery to treat heart diseases.<sup>1</sup>

Rehabilitation may be defined as the process of helping the patient adjust to a disability by teaching integration of all resources and concentration more on existing abilities than on permanent disabilities. Cardiac rehabilitation is the restoration of a person to optimal state of function in 6 areas; physiologic, Mental, Spiritual, Economic and Vocational. Many persons recover from an MI physically, yet they may never attain psychologic well-being because of misconceptions about the illness or a need to practice illness behaviours. Returning to work and

resuming all activities have long been out come measures of cardiac rehabilitation and are important in terms of cost-effectiveness of cardiac care and rehabilitation.<sup>2</sup>

Cardiac rehabilitation teaches the cardiac client how to be more active and make lifestyle changes that can lead stronger hart and better health.<sup>3</sup>

Coronary artery diseases continue to be a major cause of death throughout the world despite dramatic advances made in the treatment over the last 25 years. As it is growing and people are affected by it, the nurse has an important role in helping the people to live with the disease and control it through various preventive and therapeutic measures.<sup>4</sup>

In considering rehabilitation the nurse and patient must recognize that CAD is a chronic disease. It will not be cured or will it disappear by itself. Therefore basic changes in lifestyle must be made to promote recovery and health. These changes must frequently be made at a time when a person is middle aged. The patient must also realize that recovery takes time. Resumption of physical activity after MI is slow and gradual.<sup>5</sup>

Cardiac rehabilitation may be helpful for the patients with the history of Heart attack, Coronary artery disease, Heart failure, Peripheral arterial disease, Angina, Cardiomyopathy, Certain congenital heart disease, Coronary arteries bypass surgery, Angioplasty and stunts, Hearttransplant, Heart valve replacements.<sup>6</sup>

Nurses are involved in many aspects of cardiac rehabilitation and may assist clients in developing a program of exercise that fits their needs and level of functioning. Increased physical activity appears to benefit individuals with myocardial infarction (MI) Angina pectoris or congestive heart failure as well as clients who have Bypass Graft (CABG) or Percutaneous Transluminal coronary angioplasty (PTCA). Clients with CHD benefit from exercise and activity in terms of reduced mortality and morbidity, improved quality of life, improved left ventricular function, increased functional capacity and psychological well-being.<sup>7</sup>

An important nursing goal is patient and family education. The purpose of teaching is to

give the patient and family the tools they need to make informed decisions about attainment of health. It is important for the nurses in cardiac unit to become familiar with various types of cardiac problems. If the nurse's knowledge and skill is improved the patient can get better care and health teaching by them.<sup>8</sup>

Cardiac rehabilitation is a medically supervised program that helps improve the health and well-being of people who have heart problems. Rehab programs include exercise training, education on heart healthy living, and counseling to reduce stress and help the patients return to an active life.<sup>9</sup>

Health education is an important nursing care because it can determine how well individuals perform behaviours conducive to optimal self care. People with chronic illness are the most in need of health education. People with chronic illness need health care information to participate actively in and assume responsibility for much of their own care. Health education can help these individuals to adapt to illness, and prevent complications. The goal of health education is to teach people to live life to its healthiest.

### **NEED FOR THE STUDY**

It is an exercise and education program designed to improve the patient's quality of life after a heart attack or another heart problem. It includes a programme of structured exercise is now generally believed not only to improve morbidity but also reduces mortality in patients who have suffered a myocardial infarction (MI). Activity and exercise have been shown to play a role in secondary prevention or reoccurrence of CHD. Cardiac rehabilitation is becoming an integral part of comprehensive care of clients who have been diagnosed with CHD. It has been thought for many years that all patients, regardless of gender, or age, who have ischemic heart disease and or cardiac failure might benefit from cardiac rehabilitation.<sup>11</sup>

An exploratory and descriptive study conducted to determine nurses' knowledge of heart failure education principles among 300 nurses who provided care to patients with Heart Failure. Convenience sample were used to select the sample. The study revealed that the nurses are not properly educated in Heart Failure self management principles and must be provided with the right information so they can improve the quality and amount of information they offer to patients. Nurses who are better prepared to educate patients with HF may be more likely to carry out this nursing function as a part of their daily job role.<sup>12</sup>

An experimental study conducted on "Perception of patients on their educational needs in the first 6 months following discharge after cardiac surgery at Royal Brompton Hospital England. Patients were asked to maintain a diary over 6 week period of time and then take part in an unstructured interview when they returned for their 6 week outpatient appointment. A small sample size of 10 respondents was selected with least prior experience. The analysis of the study findings revealed that patients need in the areas of

early discharge, pain relief and sleep promotion, psychological needs, practical needs, and community support. The study also made several recommendations to improve the rehabilitation experience that is including additions to the literature and patient educational sessions and changes to ensure another transition in to community.<sup>13</sup>

A quasi experimental study conducted to assess the problems of post MI, CABG patients in early recovery 82 patients were interviewed after 6 months of discharge using a tool that required them to describe problems they experienced in early recovery and what information they needed at the university hospital; Netherlands. Majority of the problems developed according to their responses were emotional reactions (59%) deleterious effect of treatment 56% and convalescence (54%). Most of the patient needed additional to different information on topics like deleterious effects of treatment (26%) physical condition (24%) risk factor (24%) convalescence (24%) and knowledge of disease (24%).<sup>14</sup>

A survey conducted to assess cardiac patients need for educational programme at Escorts Heart Institute and Research centre, Delhi. It was found that majority 72% of cardiac patient said that they wanted to participate with their physicians in decision making about their health care findings of the study also revealed that patients were most likely to follow suggestions related to altering lifestyle related to risk factors, when the message is conveyed by personal physician but it is factual that detailed explanation was not given regarding health matters unless specifically asked which makes that patient lacks in information about their own healthy aspect.<sup>15</sup>

An experimental study to assess the role of nurse in cardiac patient education among staff nurses at general hospital in Karad. The evidence cited shown that nurses are not doing effective, consistent patient teaching and are not perceived by patients. It appeared that nurses do not view patient teaching as a priority and that nurses are not held accountable for patient teaching. Patient teaching seems to be done only if “there is time”. It is often done on an informal and largely voluntary basis by motivated nurses. Nurses must awaken to the fact that patient education is not a luxury, but a necessity if patients are to receive maximum benefit from today’s knowledge of treatment, prevention and control of disease.<sup>16</sup>

By 2020 heart disease will become the leading cause of both death and disability worldwide, with the number of fatalities projected to increase to more than 20 million a year and to more than 24 million a year by 2030.<sup>17</sup>

It is found that India suffers the highest loss in potentially productive years of life (35-64yrs) due to deaths from cardiovascular disease. In Haryana, the prevalence rate was 22.8 and 17.3 per1000 males & females respectively.<sup>18</sup>

Advanced-training personnel should recognize the need to enhance nurse skills in patient education and rehabilitation the importance of these skills also should be recognized in first-level training.<sup>19</sup>

From the above findings of literature it is realized that the cardiac patients were rarely provided with sufficient information related to the health behaviour modification which aids in the secondary prevention of heart diseases. The researcher in her own view found that the nurses don't have sufficient knowledge and practice of cardiac rehabilitation. Patient education programme for cardiac patients is an essential part of the quality of nursing staff working in cardiac unit only if the nurses acquire knowledge regarding cardiac rehabilitation they can improve the knowledge of patient with cardiac problems.

### **Statement Of The Problem**

**“A study to evaluate the effectiveness of structured teaching programme on knowledge regarding cardiac rehabilitation program among staff nurses at selected general hospital in Karad”.**

### **Objectives**

1. To assess the level of knowledge of staff nurses regarding cardiac rehabilitation.
2. To evaluate the effectiveness of structured teaching programme (STP) on knowledge regarding cardiac rehabilitation program.
3. To find out the relationship between the Pre-test knowledge score and Post-test knowledge scores.

### **Material & Methods**

Research methodology is a way to systematically solve the research problem. In this study it refers: to the various steps that are generally adopted by a researcher in studying the research problem along with the logic behind them. The present study was aimed at assess knowledge of staff nurse regarding cardiac rehabilitation program.

This chapter deals with a brief description of the different steps which were undertaken by the investigation for the study. It includes the research design, variables, setting, population, sample size, sample technique, description of tool, content validity, ethical issues, pilot study, data collection procedure and plan for data analysis.

### **Research Approach**

Research Approach is the most significant part of any research. The appropriate choice of the research approach depends upon the purpose of the research study. Quasi experimental approach was selected for the study. It was used to assess knowledge of staff nurse regarding cardiac rehabilitation program.

### **Research Design**

A researcher's overall plan for obtaining answers to the research questions or for testing the research hypothesis is the research design. The research design spells out the basic strategies that the researcher adopts to develop information that is accurate and interpretable.

### **Variables:**

Evaluative study involves the description of variables that are of interest to the researcher. Research variables are qualities, properties or characteristics that are identified in the research problem and sub problem that are to be described or measured in the study.

In this study the variables of interest to the researcher which are described and measured are the knowledge among staff nurse regarding cardiac rehabilitation program.

### **1. Independent Variable:**

The independent variable is the variable that stands alone and not dependent on any other. It is the cause of action. In this study the structured teaching program was the independent variable.

### **2. Dependent Variable:**

Dependent variable is the effect of the action of independent variable and cannot exist by itself. Knowledge of the staff nurses on cardiac rehabilitation program was the dependent variable in this study.

### **3. Attribute variables:**

These are otherwise known as socio demographic variables. In this study, the attribute variables are Age, gender, Religion, Type of family, Educational status, Department /work area, income, Experience Regarding cardiac rehabilitation program.

#### **Setting of the study**

The study was conducted at Victoria hospital, Bangalore. These settings were selected because of availability of samples, feasibility of conducting study, and ethical clearance.

For the present study, Pre-experimental one group pre-test, post-test design was adopted.

#### **Population**

The term population refers to aggregation or totality of all the object, subject or members that conform to a set of specification. The populations under study consist of staff nurses working in all departments in Victoria hospitals at Bangalore.

#### **Target population**

It refers to the elements, people, objects to which the investigator want to generalize the research findings. The target population of this study was comprised of all the staff nurses working in all departments in Victoria hospitals, Bangalore.

#### **Accessible population**

The part of the target population that is available to the investigator. The accessible populations in this study were staff nurses working in all departments in Victoria hospitals.

#### **Sample and sample**

#### **techniqueSample:**

Sample is a subset of population. It is the process of selecting a portion of the population to represent the entire population. In this study the sample size is 60 staff nurses were selected who fulfil the inclusion criteria.

### **Sampling technique:**

A probability simple random sampling technique was used for selection of samples. The sample who were available at the time of data collection and also who fulfil the inclusion criteria were selected.

### **Criteria for sample selection**

The criteria for sample selection are mainly depicted under two headings which include the inclusive and exclusive criteria.

#### **Inclusion criteria:**

1. Staff nurses who completed nursing.
2. Staff nurses of both sexes.
3. Staff nurses between 21-50 years.
4. Staff nurses who are willing to participate in the research study.

#### **Exclusion Criteria**

1. Staff nurses who are engaged in administrative work.
2. Staff nurses who are working in OT.

### **Development and Description of the tool**

An instrument selected in a research study should be as far as possible the vehicle that would best obtain data for drawing conclusions which were pertinent to the study. Based on the objectives of the study, a structured questionnaire was prepared in order to assess the knowledge of staff nurses regarding cardiac rehabilitation program at selected area in Bangalore.

After exclusive and systematic review of literature the investigator developed the structured questionnaire. The steps followed in preparation of tool were

1. Review of literature
2. Preparation of blue print
3. Answer key
4. Validation
5. Pilot study.

#### **Review of Literature**

Related literature reviews like books, journals, articles periodicals, published research studies and unpublished research studies were reviewed and opinions of subject experts was considered for the development of the tool.

#### **The Blue Print**

The blue print was prepared to construct the tool; there were 30 knowledge questions under 5 aspects for knowledge assessment regarding cardiac rehabilitation program.

#### **Description of the tool**

The self administered questionnaire consisted of 3 sections covering the following areas.

##### **Section A**

This section consists of six items seeking information on demographic data which includes Age, gender, Religion, Type of family, Educational status, Department /work area, income, Experience.

##### **Section B**

Self administered questionnaire was used to assess the knowledge of staff nurses regarding cardiac rehabilitation program. The total number of questions was 30.

### **Scoring**

The knowledge regarding cardiac rehabilitation program was measured in items of knowledge scores. Each correct answer was given a score of one and wrong answer scores of zero. The maximum score was 30 and the minimum score was 0. To interpret level of knowledge the scores were distributed as follows.

1. Inadequate knowledge <50%
2. Moderate knowledge 51-75%
3. Adequate knowledge >75

### **Section C**

#### **Development of structured teaching program:**

Structured teaching program (STP) is an active instructional device or learning package which presents information in such a way that learner can acquire it without the teaching help. A STP includes logical sequencing of subject matter, specific and adequacy of information. It is assigned for learners to achieve pre-specified objectives that help in group learning. A STP should have the following elements like introduction, directions for use, objectives, recommended preparation, review questions and answers, and references. The significant features of the learning material should be explained.

#### **Content validity**

Content validity is the degree to which the item is an instrument adequately represents the universe of content. Content validity has a special relevance to individuals designing a list to measure knowledge in specific content area. The entire section of the tool was validated by five nursing experts, one cardiologist and one statistician for establishing content validity. Their suggestions were taken into consideration and modifications were incorporation in the preparation of the tool.

#### **Ethical consideration**

Formal permission was obtained from the setting before the conduction of the study. Informed consent was obtained from subjects were obtained before conducting the study. There was no ethical issues were aroused during the course of the study.

A pre-test was conducted by administering the structured interview schedule after which a structured teaching program was administered. A post-test was given after a period of 7 days. The data were analyzed..



## **Procedure for data collection**

**Phase: I**  
The investigator obtained formal approval from concerned authority for conduct the study at Victoria hospital, Bangalore.

### **Phase: II**

The investigator selected 60 samples by using a probability simple random sampling technique. After a brief self introduction the investigator explained the purpose of the study and obtained consent from them. On the first day demographic data and self administered questionnaire on knowledge of cardiac rehabilitation program was given to each subject to complete. The time required was 45-60 minute.

### **Phase: III**

The pre-test and post test knowledge score was found. The data was collected for the period of six weeks.

## **Processing of data**

Data collected was processed every day. Missed out data/ information was identified and immediately next day it was rectified.

## **Plan for data analysis**

Pilot (1995) states that data analysis is the systematic organization and synthesis of research data and testing of research hypothesis using these data.

The obtained data was planned to analyze on the basis of the objectives of the study using descriptive and inferential statistics.

### **Descriptive statistics:**

Organize data in master sheet.

- Frequency and percentage distribution was used to analyze the demographic variables of the staff nurses such as Age, Religion, Occupation, Educational status, income, Type of family, number of children, and source of information.
- Mean, standard deviation and mean difference were used to determine the pre test knowledge of staff nurses regarding cardiac rehabilitation program.

### **Inferential statistics:**

1. Paired 't' test was used to compare the knowledge of staff nurses regarding cardiac rehabilitation program.
- Chi-square test was used to find out the association between the level of knowledge and demographic variables of staff nurses regarding cardiac rehabilitation program. Level of significance was fixed at 5% level.

### **Sampling technique:**

A probability simple random sampling technique was used for selection of samples. The sample who were available at the time of data collection and also who fulfil the inclusion criteria were selected.

### **Inclusion criteria:**

1. Staff nurses who completed nursing.
2. Staff nurses of both sexes.

3. Staff nurses between 21-50 years.
4. Staff nurses who are willing to participate in the research study.

**Exclusion Criteria:**

1. Staff nurses who are engaged in administrative work.
2. Staff nurses who are working in OT.
3. Staff nurses who are not willing to participate.

**Results:**

This chapter deals with the analysis and interpretation of data collected from sixty staff nurses to evaluate the effectiveness of a STP regarding cardiac rehabilitation program at Krishna Hospital & Medical Research Centre, Karad.

**OBJECTIVES OF THE STUDY**

The objectives of the study were to:

1. To assess the level of knowledge of staff nurses regarding cardiac rehabilitation.
2. To evaluate the effectiveness of structured teaching programme (STP) on knowledge regarding cardiac rehabilitation program.
3. To find out the relationship between the Pre-test knowledge score and Post-test knowledge scores.
4. To determine the association between the Post-test knowledge score and their selected demographic variables.

**HYPOTHESES**

**H<sub>1</sub>:** Mean post test knowledge score was significantly higher than the mean pre-test knowledge score.

**H<sub>2</sub>:** There was a significant relationship between pre-test knowledge score and post-test knowledge score among staff nurses, who received STP regarding cardiac rehabilitation program.

**H<sub>3</sub>:** There was a significant association between the post-test knowledge score and selected demographic variables among staff nurses who received STP regarding cardiac rehabilitation program.

**ORGANIZATION AND PRESENTATION OF DATA**

The obtained data were organized and presented for analysis under following sections.

**Section A:** Distribution of demographic variables of staff nurses.

**Section B:** Assess the pre and post –test level of knowledge regarding cardiac rehabilitation program among staff nurses.

**Section C:** Evaluate the effectiveness of structured teaching program on knowledge

regarding cardiac rehabilitation program among staff nurses.

**Section D:** Association between the post-test levels of knowledge regarding cardiac rehabilitation among staff nurses along with their demographic variables.

**Section A: Frequency and percentage distribution of socio-demographic variables of staff nurses.**

This section deals with description of demographic variables or sample characteristics. A Sample of 60 staff nurses were drawn from the selected hospital based on the sampling criteria. The data on samples were analyzed using descriptive and inferential statistics and presented in terms of percentage distribution and diagrams.

The data obtained from the sample are presented in terms of age, gender, religion, types of family, education, department, and income/month, work experience regarding cardiac rehabilitation program.

**Table 6.1:** Frequency and percentage distribution of demographic variables of cardiac rehabilitation program among staff nurses.

N=60

	<b>Demographic variables</b>	<b>No</b>	<b>%</b>
1	Age		
	a) 21-30 years	10	16.67
	b) 31-40 years	20	33.33
	c) 41-50 years	30	50.00
2	Gender		
	a)female	32	53.33
	b)male	28	46.67
3	Religion		
	a) Hindu	22	36.67
	b) Muslim	15	25.00
	c) Christian	12	20.00

	d) Others	11	18.33
4	Types of family		
	a) Nuclear family	27	45.00
	b) Joint family	33	55.00
5	Education status		
	a) M.sc nursing	3	5.00
	b) GNM	21	35.00
	c) B.sc nursing	12	20.00
	d) P.B.B.sc nursing	12	20.00
	e) Nursing with certificate course	12	20.00
6	Department /work area		
	a) cardio thoracic dept	20	33.33
	b) orthopedic dept	15	25.00
	c) neurology dept	9	15.00
	d) urology dept	13	21.67
	e) oncology dept	3	5.00
7	Income/month		
	a) Below Rs. 10000/-	6	10.00
	b) Rs .10001-20000/-	29	48.33
	c) Rs.20001-30000/-	10	16.67
	d) Rs30001-40,000/-	10	16.67
	e) Above Rs.40,000/-	5	8.33
8	Experience		
	a) 1-10 yrs	17	28.33
	b) 10-20 yrs	23	38.33

	c)21 -30 yrs	20	33.33
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Table-6.1: Shows that the Frequency and percentage distribution of demographic variables of staff nurses.

Majority of the staff nurses 20(33.33%) belongs to the age group of 31- 40 years, 30(50.00%) in the age group of 45-50 years, and remaining 10(16.67%) in the age group of 21-30 years in study group.

In case of number of gender of the participants, 32(53.33%) are female, 28(46.67%) are male. On the basis of religion majority of them 22(36.67%) were Hindu's, 15(25%) were Muslim, 12(20%) were Christian and the remaining 11(18.33%) were others.

On the basis of type of family, 33(55%) belongs to joint family and 27(45%) belongs to nuclear family.

In case of the staff nurses educational status, 21(35%) were educated GNM, 12(20%) B.sc nursing, 12(20%) P.B. B.sc nursing, 12(20%) degree with certificate courses and 3 (5%) were M.sc nursing.

In case of the staff nurses department/working are, 20(33.33%) were from cardio thoracic dept, 15(25%) were from orthopedic dept, 13(21.67) were from urology dept, 9(15%) were from neurology dept and remaining 3 (5%) were from urology dept.

Regarding to the monthly income 29(48.33%) have an income between Rs. 10001-20000, 10(16.67%) have an income of Rs. 10001-20000/- and also for Rs.21,001- 30,000/- , 6(10%) have an income of below Rs. 10,000/-and remaining 5 (8.33%) have an income of above Rs.40, 000/-

In case of the staff nurses work experience 17(28.33%) are 1-10 years, 23(38.33%) are 11- 20 years and 20(33.33%) are 21-30 years.

**SECTION II: ASSESS THE PRE AND POST TEST LEVEL OF KNOWLEDGE ON CARDIAC REHABILITATION PROGRAM AMONG STAFF NURSES.**

**TABLE – 6.2: Classification of Respondents based on their Pretest Knowledge scores regarding cardiac rehabilitation program among staff nurses.**

N=60

Knowledge Level	Category	Respondents	
		Number	Percent
Inadequate	≤ 50 % Score	39	65
Moderate	51-75 % Score	21	35
Adequate	> 75 % Score	00	00
Total		60	100

Table 6.2 and Figure 11 depict that, the classification of respondents according to their knowledge level in the pre-test. The data showed that majority 39(65%) of the respondents had inadequate knowledge, only 21(35%) had moderate knowledge but none of them had adequate knowledge.

**TABLE –6. 3: Classification of Respondents based on Post-test Knowledge scores regarding cardiac rehabilitation program among staff nurses.**

N=60

Knowledge Level	Category	Respondents	
		Number	Percent
Inadequate	≤ 50 % Score	0	0
Moderate	51-75 % Score	21	35
Adequate	> 75 % Score	39	65
Total		60	100

Table 6.3 and Figure 12 depict that, the classification of respondents according to their knowledge level in the post-test. The data showed that majority 39(65%) of the respondents had adequate knowledge regarding cardiac rehabilitation program among staff nurses, 21(35%) had moderate knowledge but none of them had inadequate knowledge.

**TABLE –6.4: Over all Pre-test and Post test Mean Knowledge on cardiac rehabilitation program among staff nurses.**

N=60

Aspects	Max. Score	Respondents Knowledge			Paired 't' Test
		Mean	Mean (%)	SD (%)	
Pre test	30	15.64	52.1	4.21	14.26 *
Post test	30	24.2	80.6	1.82	
Enhancement	30	8.56	28.5	2.39	

\* Significant at 5% level,

$$t (0.05, 59 \text{ df}) = 1.96$$

Table 6.4 shows the overall pre-test and post-test mean knowledge on cardiac rehabilitation program. The mean pre-test score was 15.64 (52.1%) with a SD of 4.21 while the post-test mean was 24.2 (80.6%) with a SD of 1.82. The mean enhancement in knowledge was 8.56 (28.5%) with a SD of 2.39. The obtained 't' value was 14.26 and is found to be significant at  $P \leq 0.05$  level of significance.

**SECTION-IV: Effectiveness of Structured Teaching Programme (STP) on knowledge of staff nurses regarding cardiac rehabilitation program.**

**Table: 6.5:** Mean and Standard deviation of knowledge scores between pre and post test Structured Teaching Programme and statistical significance.

N=60

Sl. No.	Aspect of knowledge	Pre test		Post test		Paired 't' value	P-Value
		Mean	SD	Mean	SD		

1.	About general information of cardiac rehabilitation.	6.63	1.60	10.05	0.83	14.19*	P<0.001
2.	About cardiac rehabilitation program.	2.16	0.20	3.82	0.65	14.83*	P<0.001
3.	About role of nurses	6.83	2.10	10.35	1.14	13.77*	P<0.001
4.	Overall knowledge	15.64	4.21	24.2	1.82	14.32*	P<0.001

Note: \*-Significant (i.e .P<0.05)

The above table 6.5 represented the mean and SD of pre and post test knowledge regarding cardiac rehabilitation program among staff nurses. In pre test mean for over all knowledge is

15.64 with SD of 4.21. In Post test mean knowledge for over all knowledge is 24.2 with SD of 1.82. The effectiveness of STP was found by using paired t test and it was found to be highly significant (14.32) at 0.05 levels.

#### SECTION-IV: ASSOCIATION BETWEEN SELECTED DEMOGRAPHIC VARIABLES AND POST-TEST KNOWLEDGE SCORE.

**TABLE 6.6: Association between selected demographic variables and post-test knowledgescores on cardiac rehabilitation program among staff nurses.**

**N=60**

Demographic Variables	Category	Sample	Respondents Knowledge				t value	P Value
			Above mean		Below mean			
			n	%	n	%		
Age group (years)	21 -30 Years	10	05	8.3	5	8.3	1.1 (NS) df=3	> 0.05
	31-40Years	20	10	16.7	10	16.7		
	41-50 years	30	15	25	15	25		
Gender	Female	32	16	26.7	16	26.7	4.53* df =1	< 0.05
	Male	28	13	21.6	15	25		
Religion	Hindu	12	08	13.3	04	6.7	6.17 (NS) df= 3	> 0.05
	Muslim	15	07	11.7	08	13.3		
	Christian	12	04	6.67	8	13.3		
	others	11	02	3.3	9	15		
Types of family	Nuclear Family	27	08	13.3	19	31.7	4.53*	<



	Joint family	33	13	21.6	20	33.3	df 1	0.05
Educational Qualification	M.sc nursing	03	01	1.7	02	3.3	0.66	> 0.05
	GNM	21	08	13.3	13	21.6	(NS)	
	B.sc nursing	12	08	13.3	04	6.7	Df= 3	
	P.B.B.sc nsg	12	04	6.67	08	13.3		
	Nursing with certified course	12	09	15	03	5		
Department/work area	C-T dept	20	13	21.6	07	11.7	6.17	> 0.05
	Orthopedic dept	15	10	16.7	05	8.3	(NS)	
	Neurology dept	9	01	1.67	08	13.3	df =3	
	Urology dept	13	02	3.3	11	18.3		
	Oncology dept	03	03	5	03	5		
Income/month	Below Rs 10000/-	06	02	3.3	04	6.7		
	Rs 10001-20000/-	29	18	30	11	18.3	8.17* df 3	< 0.05
	Rs 20001-30000/-	10	03	5	7	16.7		
	Rs 30001-40000/-	10	6	10	4	6.67		
	Above Rs40000/-	05	03	5	02	3.3		
Work experience	1-10yrs	17	12	20	05	8.3	6.17	> 0.05
	11-20 yrs	23	7	11.7	16	26.7	(NS)	
	21-30yrs	20	3	5	17	28.3	df =3	
Combined		60	30		30			

**Significant**

NS-Non significant

Table-6.6: Shows the association between post-test knowledge on cardiac rehabilitation program among staff nurses with selected demographic variables. The chi-square analysis revealed that there is a significant association between posttest knowledge on cardiac rehabilitation program among staff nurses with selected demographic variables like sex, types of family and income.

There is no significant association with age, religion, education, department and work experience. Hence statistical hypothesis is rejected and the alternate hypothesis is accepted.

## **DISCUSSION**

The study was descriptive correlation in nature. This study was aimed to assess the knowledge of staff nurses regarding cardiac rehabilitation program at Krishna Hospital & Medical Research Center Karad Maharashtra. The study sample consists of 60 staff nurses. The findings of data analysis were discussed in accordance with the objectives and stated hypotheses of the present study.

staff nurses indicates that majority 39(65%) of the respondents had adequate knowledge regarding cardiac rehabilitation program among staff nurses, 21(35%) had moderate knowledge but none of them had inadequate knowledge.

### **Section C: Evaluate the effectiveness of structured teaching program on knowledge regarding cardiac rehabilitation program among staff nurses.**

The analysis shows that The mean pre-test score was 15.64 (52.1%) with a SD of 4.21 while the post-test mean was 24.2 (80.6%) with a SD of 1.82. The mean enhancement in knowledge was 8.56 (28.5%) with a SD of 2.39. The obtained 't' value was 14.26 and is found to be significant at  $P \leq 0.05$  level of significance. In pre test mean for over all knowledge is 15.64 with SD of 4.21. In Post test mean knowledge for over all knowledge is 24.2 with SD of 1.82. The effectiveness of STP was found by using paired t test and it was found to be highly significant (14.32) at 0.05 levels.

### **Section D: Association between the post-test levels of knowledge regarding cardiac rehabilitation among staff nurses along with their demographic variables.**

Chi-square ( $\chi^2$ ) test was administered to check the contingency. The Chi-square analysis was done for the socio-demographic variables like Age (in years), Gender, Religion, Type of family, Educational status, department/work area, income/month, work experience of staff nurses regarding cardiac rehabilitation program.

The Chi-square test was found significant for the selected variables with 4.53 for sex, 4.53 for type of family, and 8.17 for income /month.

### **Section A: Distribution of demographic variables of staff nurses.**

Majority of the staff nurses 20(33.33%) belongs to the age group of 31- 40 years, 30(50.00%) in the age group of 45-50 years, and remaining 10(16.67%) in the age group of 21-30 years in study group. In case of number of gender of the participants, 32(53.33%) are female, 28(46.67%) are male. On the basis of religion majority of them 22(36.67%) were Hindu's, 15(25%) were Muslim, 12(20%) were Christian and the remaining 11(18.33%) were others. On the basis of type of family, 33(55%) belongs to joint family and 27(45%) belongs to nuclear family. In case of the staff nurses educational status, 21(35%) were educated GNM, 12(20%) B.sc nursing, 12(20%) P.B. B.sc nursing, 12(20%) degree with certificate courses and 3 (5%) were M.sc nursing. In case of the staff nurses department/working area, 20(33.33%) were from cardio thoracic dept, 15(25%) were from orthopedic dept, 13(21.67) were from urology dept, 9(15%) were from neurology dept and remaining 3 (5%) were from urology dept. Regarding to the monthly income 29(48.33%) have an income between Rs. 10001- 20000, 10(16.67%) have an income of Rs. 10001-20000/- and also for Rs.21,001- 30,000/- , 6(10%) have an income of below Rs. 10,000/- and remaining 5 (8.33%) have an income of above Rs.40, 000/-. In case of the staff nurses work experience 17(28.33%) are 1-10 years, 23(38.33%) are 11-20 years and

20(33.33%) are 21-30 years.

### **Section B: Assess the pre and post –test level of knowledge regarding cardiac rehabilitation program among staff nurses.**

Analysis of pretest mean level of knowledge among staff nurses indicates that majority 39(65%) of the respondents had inadequate knowledge, only 21(35%) had moderate knowledge but none of them had adequate knowledge. Analysis of posttest mean level of knowledge among

The results were found to be non-significant for the variables with 1.1 for age group, 6.17 for religion, 0.66 for Educational Qualification, 6.17 for department/work area, 6.17 for work experience.

It is revealed that there was a significant association between the selected socio-demographic variables considered for this study and the knowledge scores of staff nurses regarding cardiac rehabilitation program. Hence statistical hypothesis is rejected and the alternate hypothesis is accepted.

### **SUMMARY**

This chapter has dealt with the discussion of major findings of the study supported with previous research studies.

#### **CONCLUSION**

The study findings suggest that structured teaching programme had significant effect on knowledge of staff nurses regarding cardiac rehabilitation program. It has also showed the various responses and views of the subjects. The investigator strongly urges the staff nurses regarding cardiac rehabilitation program.

### **Section A: Distribution of demographic variables of staff nurses.**

Majority of the staff nurses 20(33.33%) belongs to the age group of 31- 40 years, 30(50.00%) in the age group of 45-50 years, and remaining 10(16.67%) in the age group of 21-30 years in study group. In case of number of gender of the participants, 32(53.33%) are female, 28(46.67%) are male. On the basis of religion majority of them 22(36.67%) were Hindu's, 15(25%) were Muslim, 12(20%) were Christian and the remaining 11(18.33%) were others. On the basis of type of family, 33(55%) belongs to joint family and 27(45%) belongs to nuclear family. In case of the staff nurses educational status, 21(35%) were educated GNM, 12(20%) B.sc nursing, 12(20%) P.B. B.sc nursing, 12(20%) degree with certificate courses and 3 (5%) were M.sc nursing. In case of the staff nurses department/working area, 20(33.33%) were from cardio thoracic dept, 15(25%) were from orthopedic dept, 13(21.67) were from urology dept,

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**Section B: Assess the pre and post –test level of knowledge regarding cardiac rehabilitation program among staff nurses.**

Analysis of pretest mean level of knowledge among staff nurses indicates that majority 39(65%) of the respondents had inadequate knowledge, only 21(35%) had moderate knowledge but none of them had adequate knowledge. Analysis of posttest mean level of knowledge among staff nurses indicates that majority 39(65%) of the respondents had adequate knowledge regarding cardiac rehabilitation program among staff nurses, 21(35%) had moderate knowledge but none of them had inadequate knowledge.

**Section C: Evaluate the effectiveness of structured teaching program on knowledge regarding cardiac rehabilitation program among staff nurses.**

The analysis shows that The mean pre-test score was 15.64 (52.1%) with a SD of 4.21 while the post-test mean was 24.2 (80.6%) with a SD of 1.82. The mean enhancement in knowledge was 8.56 (28.5%) with a SD of 2.39. The obtained „t“ value was 14.26 and is found to be significant at  $P \leq 0.05$  level of significance. In pre test mean for over all knowledge is 15.64 with SD of 4.21. In Post test mean knowledge for over all knowledge is 24.2 with SD of 1.82. The effectiveness of STP was found by using paired t test and it was found to be highly significant (14.32) at 0.05 levels.

**Section D: Association between the post-test levels of knowledge regarding cardiac rehabilitation among staff nurses along with their demographic variables.**

Chi-square ( $\chi^2$ ) test was administered to check the contingency. The Chi-square analysis was done for the socio-demographic variables like Age (in years), Gender, Religion, Type of family, Educational status, department/work area, income/month, work experience of staff nurses regarding cardiac rehabilitation program.

The Chi-square test was found significant for the selected variables with 4.53 for sex, 4.53 for type of family, and 8.17 for income /month.

The results were found to be non-significant for the variables with 1.1 for age group, 6.17 for religion, 0.66 for Educational Qualification, 6.17 for department/work area, 6.17 for work experience.

It is revealed that there was a significant association between the selected socio-demographic variables considered for this study and the knowledge scores of staff nurses regarding cardiac rehabilitation program. Hence statistical hypothesis is rejected and the alternate hypothesis is accepted.

**Nursing Implications:**

The main aim of the present study is to educate the staff nurses regarding cardiac rehabilitation program. The study helps the staff nurses regarding cardiac rehabilitation program.

The findings of this study have implications in the field of Nursing education, Nursing practice, Nursing administration and Nursing research. The dissemination of the knowledge takes place when the research findings are made use of in the following fields.

#### **Nursing Practice:-**

Education programmes can be conducted by the nursing personnel on regarding cardiac rehabilitation program in various hospitals. It will be helpful in clearing the doubts of the staff nurses regarding cardiac rehabilitation program. Nurses should inform the staff nurses regarding cardiac rehabilitation program. Education programmes with effective teaching strategies, like audio visual aids helps the clients to know about the child adoption.

#### **Nursing Education:-**

Nursing students and nurses should be encouraged to consider the health education as a way of life and practice it in their daily life. Clinical and community posting should be utilized for opportunities to impart health education.

#### **Nursing Administration:-**

As an administrator, a nurse can avail the multi-dimensional approach, this helps the staff nurse to gain confidence and maintain healthy health practice with full strength. To perform the nursing administration in a right and effective way, the need of producing effective materials are highly essential. To fulfill the needs of such administration the guidelines may be derived from the research documents. The present study has got implication for nursing administration to plan, organize, and provide materials for the effective awareness programs regarding cardiac rehabilitation program of staff nurses and should be open for discussion and suggestions.

#### **Nursing Research:-**

“Better health nursing research” is the theme adopted by Trained Nurses association of India. The research helps to plan new interventional strategies for the staff nurses regarding cardiac rehabilitation program. Research has the character of dependency. To do this study, knowledge is accumulated from many researches. Likewise, the methodology adopted in this thesis will help the future researching community to bring scholarly truths. The materials and adopted methodologies will be a useful guide to the researcher to find the right information from target group to shape up the truth.

#### **Limitations of the study:**

The limitations of the present study were-

- The study was conducted using simple random sampling technique, which restricted the generalization that could be made.
- Sample subjects were limited to only 60 staff nurses working in victoria hospital at Bangalore.
- The investigator had no control over the events that took place between pre-test and post-

test.

- The study was limited to the subjects who were willing to participate in the study and who were present at the time of the study.

## **RECOMMENDATIONS**

1. As the sample of the study is small, generalizations could not be made. Therefore, largersample study could be carried out on the same topic
2. The same study could be carried out on a longitudinal basis with regular supervision by theinvestigator.
3. The effect of STP on cardiac emergency could be studied as experimental design.

This chapter dealt with the conclusion drawn based on analysis and interpretation of data collected from the samples of the study. Therefore, it is concluded that the STP on “cardiac rehabilitation program” was effective in terms of increasing the knowledge of staff nursesregarding cardiac rehabilitation program. This chapter also dealt with the implications to the nursing profession, nursing education, nursing practice, nursing administration, and nursing research. In addition, it highlighted the suggestions for further studies and the limitations encountered in the present study.

## **SUMMARY**

This chapter presents a summary of the study. The present study was a quasi experimental one group pre and post-test research design. The study was aimed at evaluating the effectiveness of structured teaching method on cardiac rehabilitation program among staff nurses. The samples selected for the study were 60 samples and self-administered questionnaire was used to collect the data and to assess the knowledge of the staff nurses before and after administration of the nursing interventional programme. The study was conducted in Victoria Hospital at Bangalore.

### **The objectives of the study were**

1. To assess the level of knowledge of staff nurses regarding cardiac rehabilitation.
2. To evaluate the effectiveness of structured teaching programme (STP) on knowledge regarding cardiac rehabilitation program.
3. To find out the relationship between the Pre-test knowledge score and Post-test knowledge scores.
4. To determine the association between the Post-test knowledge score and their selected demographic variables.

## **HYPOTHESIS**

- H<sub>1</sub>:** Mean post test knowledge score was significantly higher than the mean pre-test knowledge score.
- H<sub>2</sub>:** There was a significant relationship between pre-test knowledge score and post-test knowledge score among staff nurses, who received STP regarding cardiac rehabilitation program.
- H<sub>3</sub>:** There was a significant association between the post-test knowledge score and selected demographic variables among staff nurses who received STP regarding cardiac rehabilitation program.

### **The study was based on the assumption that:**

1. The staff nurses may have moderate or no knowledge about cardiac rehabilitation program.
2. The structured-teaching programme may improve their knowledge about cardiac rehabilitation program in an effective way.
3. Adequate knowledge is the basis for the implementation of cardiac rehabilitation program initiative.

Review of literature revealed that the studies related to knowledge of staff nurses regarding cardiac rehabilitation program.

The conceptional framework for the study was based on general system theory Ludwig Von Bertalanffy (1968) and it provided the comprehensive framework for achieving the objectives of the study.

The investigator used an evaluative approach and quasi-experimental one group pre-test post test design to assess the knowledge of staff nurses regarding cardiac rehabilitation program. The sample sizes of 60 staff nurses were selected by using probability –simple random sampling technique. The study was conducted at victoria hospitals, Bangalore.

The tool used for research study was self administered questionnaire to assess the effectiveness of STP on the knowledge of staff nurses regarding cardiac rehabilitation program. Reliability of the self administered questionnaire was confirmed by the split half method.

The main study was conducted after obtaining permission from the medical superintendent and the sample of 60 staff nurses were selected. The data collected was analyzed using descriptive and inferential statistics.

### **Major findings of the study:**

#### **The findings of the study revealed that,**

Majority of the staff nurses 20(33.33%) belongs to the age group of 31- 40 years, 30(50.00%) in the age group of 45-50 years, and remaining 10(16.67%) in the age group of 21-30 years in study group. In case of number of gender of the participants, 32(53.33%) are female, 28(46.67%) are male. On the basis of religion majority of them 22(36.67%) were Hindu's, 15(25%) were Muslim, 12(20%) were Christian and the remaining 11(18.33%) were others. On the basis of type of family, 33(55%) belongs to joint family and 27(45%) belongs to nuclear family. In case of the staff nurses educational status, 21(35%) were

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The results were found to be non-significant for the variables with 1.1 for age group, 6.17 for religion, 0.66 for Educational Qualification, 6.17 for department/work area, 6.17 for work experience.

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