

A Descriptive study to Assess Knowledge and Practices Related to Selected Aspects of Cardiac Rehabilitation in patients after Coronary Artery Bypass Graft in Hospitals of a Metropolitan City.

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Abstract

Introduction: Coronary Artery Disease is one of the most common causes of mortality and morbidity in both developed and developing countries. It is leading cause of death in India and its contribution to mortality is rising. Cardiac Rehabilitation is a medical supervised program that helps improve the health and well-being of people who have heart problems. Rehabilitation programs include exercise training, education on heart healthy living and counselling to reduce stress and help you return to an active life. **Objectives:** The objectives of the research are to identify knowledge and practices related to Selected Aspects of Cardiac Rehabilitation in patients after Coronary Artery Bypass Surgery and to correlate knowledge and practice scores of selected aspects of Cardiac Rehabilitation in patients after Coronary Artery Bypass Surgery. **Material and Method:** A qualitative non-experimental approach was used. 80 samples were collected by using probability stratified sampling from cardiology OPD's and Cardiac Rehabilitation centre in Tertiary hospitals. Tool consists of 9 demographic variables and 30 semi-structured questionnaires on 6 aspects of Cardiac Rehabilitation and self rating checklist to assess practices. Reliability of the tool was established by using test retest method. Data was analysed by using mean score and standard deviation, frequency percentage. Correlation was established by Pearson correlation coefficient. **Results:** From findings of knowledge level scores, it was seen that highest percentage 37.5 % (36) had excellent knowledge, 16.3% had average and 1.2% had poor knowledge. The practice scores showed 43.8% had excellent practice while 50% of subjects had good practices regarding Cardiac Rehabilitation. Pearson correlation coefficient score showed here is positive correlation between knowledge and practices. **Conclusion:** The study revealed that there is need for structured cardiac Rehabilitation program.

Keywords: knowledge, practices, selected aspects of cardiac rehabilitation, patients undergone CABG.

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I. Introduction

Coronary Artery Disease is one of the most common causes of mortality and morbidity in both developed and developing countries. It is leading cause of death in India and its contribution to mortality is rising: the number of deaths due to CAD in 1985 is expected to have doubled by 2015.¹ According to reports from the National Commission on Macroeconomics and Health, 62 million people in India will have CAD by 2015 with 23 million of them would be ageing less than 40 years.² Coronary Artery diseases may present as heart attack or other cardiac ailments. 10% patients undergo Coronary Artery Bypass Surgery.³

Coronary artery bypass grafting is defined as "Open heart surgery in which a section of a blood vessel is grafted from aorta to Coronary Artery to bypass blocked section of Coronary artery and improve blood supply to heart."⁴ The number of bypass surgeries is increasing in India. About 60,000 Coronary bypass surgeries are done annually in India. ⁵In an article published in "Coronary Artery Disease in India" it was stated that out of patients undergoing CABG, 75% had 3 vessel diseases, 10% had left main artery block, 25% had severe LV dysfunction and 9% had carotid stenosis. Second surgery increases the risk of chest infection and lung complications. Stroke occurs in 1-2%, primarily in elderly patients after CABG.⁵ The incidence of leg wound complications following saphenous vein harvesting is 1% to 28% and incidence of redo CABG accounts for 5% in patients after CABG. The incidences of complications after surgery increases with advanced age, comorbidities such as diabetes, hypertension, presence of preoperative unstable angina, decreased LV dysfunction.⁶ Patients after CABG are at risk for cardiac events such as cardiac pain, heart attack, heart failure

and even death at times. It is very crucial and important for regular follow up and lifestyle changes to prevent complications. One such measure taken to improve life expectancy after CABG is to attend structured cardiac rehabilitation program which has various benefits on the health of patients.

Cardiac Rehabilitation is a medically supervised program that helps improve health and well-being of people who have heart problems. Rehabilitation program includes exercise training, education on heart healthy and counselling to reduce stress and help you return to an active life.⁷

Cardiac Rehabilitation involves four phases, Phase I begins in the hospital where patient is mobilized outside bed after surgery and made to walk. Phase II begins 15 days after surgery till 6 months. Phase III and IV is a long maintenance program individualized for patients.⁸

NEED OF THE STUDY

Cardiac patients are credulous and they expect more information but are unable to express their feelings and needs. They are in need of information regarding various aspects of Cardiac Rehabilitation in order to lead a healthier life after hospitalization.⁹ Coronary Artery Bypass Graft is a procedure used to help, improve and save lives of thousands of coronary artery disease patients every year. Cardiac Rehabilitation Program has many benefits to the patient's after surgery which includes reduction in mortality rates and readmission to hospital, improve quality of life and reduce stress. Cardiac Rehabilitation is widely practiced all over the world as secondary prevention, for health promotion and rehabilitation as well. But the concept has not gained full acceptance in India.¹⁰ Every day around 20000 new cases of heart diseases are detected in India (Indian Epidemic of Heart Disease, 4 December 2012). Sedentary lifestyle and unhealthy diet are the culprits for rapidly rising artery diseases incidence.¹¹

In a study it was stated that Cardiac Rehabilitation programs support patients to achieve professionally recommended cardiovascular prevention targets and improve quality of life.¹² In another study conducted to examine understanding of cardiac rehabilitation among patients, it was noticed that 30% of patients had no knowledge and they responded they had not heard about cardiac rehabilitation ever.¹³ In yet another study, it was seen that patients undergoing Cardiac Rehabilitation programs had fewer readmission to hospital, greater increase in work capacity and very few patients used anxiolytic drugs.¹⁴

The investigator as a staff nurse came across many patients who underwent coronary artery bypass graft surgery and had no access to a structured cardiac rehabilitation program, because of which patients came back with complaints to hospital such as chest pain, wound infections and fatigue. It was also seen that some of the patients lacked knowledge about care to be taken at home and 1-2% of patients were posted for redo CABG. Thus the investigator felt the need to assess knowledge and practices related to selected aspects of cardiac rehabilitation in patients after coronary artery bypass graft surgery.

II. Material And Methods

A quantitative non-experimental approach was used. A semi-structured questionnaire was prepared based on 6 aspects of Cardiac Rehabilitation and self rating checklist was used to assess practices regarding six aspects of Cardiac Rehabilitation (Diet, Exercise, Medicine, Rest and sleep, Monitoring and Follow up). Pearson correlation coefficient was used to identify correlation.

SETTING

The study was conducted in 2 tertiary hospitals in Mumbai in Cardiology OPD and cardiac Rehabilitation centre.

SAMPLING TECHNIQUE

Probability stratified sampling was used

SAMPLE SIZE

80 post CABG patients

DESCRIPTION OF TOOL

Section A: Demographic data collection tool questionnaire for data collection which includes age, gender, education work pattern, income, health habits, comorbidities, duration after Coronary Artery Bypass graft Surgery, attendance at formal cardiac rehabilitation program, place of attending cardiac rehabilitation problem and number of sessions.

Section B: Semi- structured questionnaire to identify knowledge related to Selected Aspects of Cardiac Rehabilitation.

Section C: Self rating checklist tool to assess practices related to Selected Aspects of Cardiac Rehabilitation.

III. Findings

Analysis of knowledge regarding Selected Aspects of Cardiac Rehabilitation

Section A- Description of the level of knowledge

Table 1: Distribution of subjects according to assessment of knowledge

N=80

Sr. No.	Assessment of knowledge	F	%
1	Poor(1-10)	1	1.2
2	Average (11-20)	13	16.3
3	Good (21-29)	30	37.5
4	Excellent (30-38)	36	45
	Total	80	100

Table 1 depicts assessment of knowledge of subjects who had undergone Coronary Artery Bypass Graft surgery. In the above table, 1.2% (1) had poor knowledge, 16.3 % (13) had average knowledge, 37.5% (36) had good knowledge and 45% (36) had excellent knowledge.

Section B –AREA WISE DESCRIPTION OF KNOWLEDGE SCORE

Table II: Distribution of subjects in relation knowledge wise knowledge mean score

N=80

Sr No.	Area wise knowledge mean score	Max. Score	Mean	S.D.
1	Exercise	8	5.63	2.22
2	Diet	8	6.50	1.35
3	Medications	6	3.62	1.75
4	Rest and sleep	4	3.29	0.64
5	Monitoring	5	3.30	1.31
6	Follow up	7	5.10	1.53

Table II shows distribution of subjects in relation to area wise knowledge mean score, which depicts that the mean score for knowledge regarding exercise aspect was (5.63) and the standard deviation for the same that was calculated was (2.22). In the similar way, mean score of knowledge of diet aspect was (6.50) with standard deviation of (1.35), followed by mean score of knowledge of medication aspect(3.62) with standard deviation (1.75), mean score of knowledge of rest and sleep was (3.29) with standard deviation of (0.64), mean score of knowledge of monitoring aspect was (3.30) with standard deviation of (1.31) and mean score of knowledge of follow up aspect was (5.10) with standard deviation of (1.53).

SECTION C- ASSESSMENT OF PRACTICE SCORES IN TERMS OF FREQUENCY AND PERCENTAGE

Table III: Distribution of subjects according to level of practice scores

Sr. No.	Assessment of practice	F	%
1.	Average (1-3)	5	6.2%
2.	Good (4-6)	40	50%
3.	Excellent(7-10)	35	43.8%

Table III depicts distribution of subjects according to level of practice scores which shows highest percentage 50% has good practice and 43% subjects have excellent practice. Lowest percentage 6.2% has average practice scores of 1-3.

SECTION D- CORRELATION BETWEEN KNOWLEDGE AND PRACTICES RELATED TO SELECTED ASPECTS OF CARDIAC REHABILITATION

Table IV: Correlation of knowledge and practices in patients after Coronary Artery Bypass Graft surgery

Correlation	N	Mean	Std.deviation	Pearson correlation r	Pearson table value r	Significance at 0.05 level p
Knowledge	80	27.44	6.74	0.908	0.220	0.001
Practices	80	6.79	2.11			

Table IV illustrates the correlation of knowledge with practices related to Selected Aspects of Cardiac Rehabilitation in patients after Coronary Artery Bypass Graft in Hospitals of a Metropolitan City by Pearson's correlation method.

The Pearson table (r) value is 0.220 at a level of significance 0.05 with N=80 no. of pairs

The calculated 'r' value is 0.908, which is more than the (r) table value. It shows there is strong positive correlation between knowledge and practices as the regression line is at 45 degrees on scatter plot. Thus it can be said that practices is dependent of knowledge.

IV. Discussion And Conclusion

The aim of selection of my study was to improve knowledge and practices of Cardiac Rehabilitation of patients undergone coronary artery bypass grafting surgery which would prevent patients from post operative complications and improve their health and well- being.

According to analysis of demographic data, majority of subjects who have undergone coronary Artery bypass graft surgery fall in the age group of 54-70 years of age and majority of men belonged in this age group. Maximum subjects were males in the study. Highest percentage of subjects 67.5% were suffering from hypertension. The duration after CABG showed highest percentage of subjects in the group 14 days- 3 months.

From analysis of knowledge of subjects regarding cardiac rehabilitation, it was seen from the knowledge mean score that subjects had good knowledge regarding exercise, diet, medication aspect. The areas where subjects lacked knowledge were rest and sleep, monitoring and follow up. In regards to practice scores, highest percentage of subjects 50% had good practices and 43.8% had excellent practices.

According to correlation of knowledge and practices it was found that there was strong positive correlation between knowledge and practice. It can be concluded that whenever there is improvement in knowledge, there is substantial improvement in practice.

NURSING IMPLICATIONS:

Nursing Service

- This study will help nurses and other health care professionals become aware of the benefits of cardiac rehabilitation for cardiac patients.
- It would be cost- effective as readmission to hospitals would be minimal.
- It would help to re-educate and motivate patients toward attendance at cardiac rehabilitation program.

Nursing Education:

- The nursing personnel can identify knowledge and practices of cardiac patients and prepare a self-instructional module or plan a cardiac rehabilitation program for patients.
- The nurse educators can teach student nurses about cardiac rehabilitation services for patients after surgery and plan health education.

Nursing Administration:

- Through the application of Cardiac Rehabilitation Programme for patients suffering from heart diseases from the time of admission or right after surgery would be helpful in reducing the mortality and morbidity rates in patient's and thus improve quality of life.
- Administrator can encourage staff for propagating cardiac rehabilitation program among cardiac patients.
- Training can be provided to nurses working in cardiology units about cardiac rehabilitation and its benefits.

Nursing Research:

- The findings of the study can serve as an evidence base which can further guide nursing patients.
- Nurses are the one who can play a paramount role in motivating clients to attend a structured cardiac rehabilitation program.

RECOMMENDATIONS:

- A similar study can be done using a larger population sample in hospitals from various geographical areas to generalize the findings.
- A comparative study can be conducted to identify non-adherence factors of cardiac rehabilitation among men and women.
- A study can be conducted to assess effectiveness of phase 2 cardiac rehabilitation on vital and functional parameters of patients.
- A study can be conducted to assess knowledge and practices of cardiac rehabilitation among valve replacement patients.

LIMITATIONS:

- The study sample was drawn from only one geographic area with a relatively small sample size so it was difficult to generalize the results to the overall population.
- Limited time was available for the study and so on Coronary Artery Bypass Graft Surgery patient's were included in the study.

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Ethical Clearance: Ethical approval was obtained from the P.D.Hinduja College of Nursing Ethics Committee before conducting the research.

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