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A study on the patient and spouse learning needs during recovery from CABG surgery

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Abstract
In today's world there is a deal of talk about heart diseases. Cardiac patients are increasing because of changing food habits and life style pattern. Coronary artery disease (CAD) is a common Cardiac problem among adults and CABG is the preferred surgery for treating major cardiac problem. Post operatively CABG patients and their spouse must have adequate knowledge on learning needs during recovery to avoid complications and to explore the quality of life after CABG surgery.
The subjects are having poor knowledge towards learning needs during recovery before the study conducted. After application of Health education module on them, have gained adequate knowledge on learning needs after the CABG surgery. The knowledge scores are $p=0.665>0.05$ There is no significant difference in knowledge levels of CABG patients and their spouse on learning needs The patients and spouse have gained adequate knowledge.

Keywords: patient, spouse, learning needs, recovery, CABG (Coronary Artery Bypass Graft)

1. Introduction
"Having a healthy heart is imperative to having a happy and healthy life."
The heart is the hardest working muscle in the human body. Located almost in the centre of the chest, the heart is a hollow muscular organ – approximately the size of our clenched fist. At an average rate of 80 times a minute, the heart beats about 115,000 times in one day or 42 million times in a year. During an average lifetime, the human heart will beat more than 3 billion times – pumping an amount of blood that equals about 1 million barrels.
In recent years, progress has been made in identifying the multiple factors that put individuals at risk for developing cardiovascular diseases. Successful programs of prevention have demonstrated that through the modification of risk factors such as cessation of smoking, decreased lipids in the diet, weight loss, and moderate levels of physical activity on a regular basis, death and illness from cardiovascular disease can be reduced.

The CABG surgery has been found to be successful in the treatment of cardiovascular diseases, it is not without risk. The surgery is a major procedure which has a significant impact on the immediate coping skills of patients and their families. With the trend toward discharging patients from the hospital early in their recovery, post-operative teaching or learning needs of the patient and spouse is essential.

Objectives
The main purpose of the study is to assess the knowledge level of CABG patients and their spouses by structured interview schedule and providing health education to them.

Methodology
Research approach
In order to achieve the objectives of the study and evaluative approach was found to be appropriate and selected for the study.

Table 1: Research design

Group	DAY 1	DAY 1
	One Group Post Test	Intervention
CABG patients and their spouse	Assess the knowledge levels of patients and their spouse on learning needs using structured interview schedule.	Health education module on care of the patients during recovery from CABG surgery

The research design adopted for the present study was one group post-test.

Independent variables: In this study selected demographic variables were the independent variable

Dependent variables: In the study the dependent variable are learning needs of the CABG patients and their spouses.

Research setting: The study was conducted in the selected hospital, Apollo hospitals Visakhapatnam.

Population: In this study population comprises of patients who had undergone the coronary Artery Bypass surgery and their spouse in selected Apollo hospital, Visakhapatnam.

Sample size: The study sample consists of 60 CABG patients

and their spouses 60 in Apollo hospitals Visakhapatnam.

Sampling technique: For this study purposive convenient sampling technique has been used.

Data collection instrument: Demographic proforma and structured interview schedule were used to collect data from patients and their spouses.

Description of the final tool

Part 1: Demographic proforma

Demographic proforma included 9 items such as age, gender, educational, occupation, income, educational status,educational status, source of information and past history of heart diseases.

Part 2: Structured knowledge questionnaire

It was divided into 7 areas:

1. Specifics of surgery.
2. Chest care and Leg care
3. Activity and movement.
4. Medications.
5. Diet and cardiopulmonary resuscitation.
6. Emotional reactions, cognition, and sleep.
7. Spousal support

Area 1: Consisting of 5 items regarding Specifics of surgery and complications

Area 2: Consisting of 5 items regarding pain and incision care

Area 3: Consisting of 6 items regarding Activity and movement, returning to work and stop smoking.

Area 4: Consisting of 7 items regarding medications non perception drugs.

Area 5: Consisting of 6 items regarding diet, CPR, elimination.

Area 6: Consisting of 5 items regarding Emotional reactions, cognition, and sleep.

Area 7: Consisting of 1 item regarding Spousal support

Each item had a score of '3' for poor knowledge and '1' for good knowledge. The possible score was 105 and the minimum score was 3.

The score was categorized as follows

Score	Grade
1	Good knowledge
2	Average knowledge
3	Poor knowledge

Data Collection Procedure

After obtaining formal permission from Apollo Hospitals, in Visakhapatnam, main study was conducted among 60 CABG patients and 60 spouses who were selected by purposive convenient sampling technique. The investigator given self-introduction and explained the purpose of the study to the subjects. Health education module was explained to the subjects and then applied the structured interview schedule on subjects and collected the data.

Plan for Analysis of Data

The data to assess the analyses of knowledge levels of CABG patients and their spouses learning needs during the recovery from CABG surgery as collected through questionnaire above was analyses using descriptive and inferential statistics.

Statistical formulae used are

1. Karl-Pearson's coefficient of correlation

$$r = \frac{n\sum xy - (\sum x)(\sum y)}{\sqrt{[n(\sum x^2 - (\sum x)^2][n(\sum y^2 - (\sum y)^2]}}$$

2. Spearman-Brown Prophecy formula

$$r^1 = \frac{2r}{1+r}$$

3. Paired 't' test

$$SD\ (d) = \frac{\sqrt{\sum (d-\bar{d})^2}}{n-1}$$

$$SE\ (d) = \frac{SD(d)}{\sqrt{n}}$$

$$t_{cal} = \frac{\bar{d}}{SE(d)}$$

4. Chi-square test with 2 X 2 contingency table

$$\chi^2 = \frac{N(ad-bc)^2}{(a+b)(c+d)(a+c)(b+d)}$$

Results

This part deals with analysis and interpretation of data collected from 60 CABG patients and 60 spouses to assess the knowledge of the patient and their spouse and association with selected demographic variables.

Table 2: Distribution of co-efficient correlation between knowledge score of CABG patients and their spouses Correlations

		Patients	Spouse
Patients	Pearson Correlation	1	.592**
	Sig. (2-tailed)		.000
	N	60	60
Spouse	Pearson Correlation	.592**	1
	Sig. (2-tailed)	.000	
	N	60	60

There is a significant difference. r= 0.592 & p=0.000 < 0.01

There is a positive correlation between patient and spouse knowledge levels

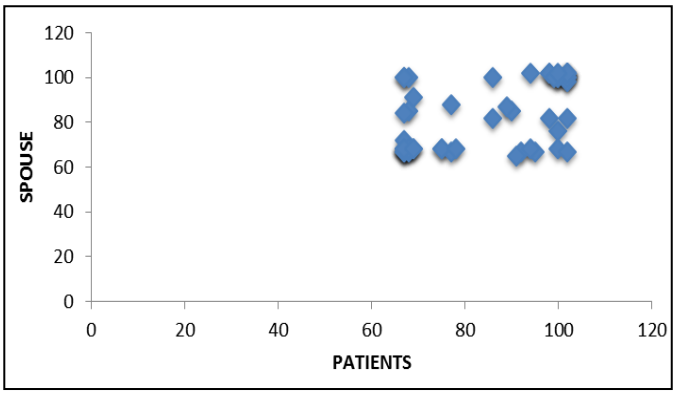

Fig 1: Correlation status

There is a significant difference. r= 0.592 & p=0.000 < 0.01
There is a positive correlation between patient and spouse knowledge levels

Table 3: Effectiveness of Health Education Module on Patient and Spouse

Knowledge of Subjects			
	Knowledge of Subjects		Total
Subjects	Adequate	Moderate	
Patients	40	20	60
Spouse	36	24	60
Total	76	44	120

P=0.449 > 0.05 there is no significant difference in knowledge on learning needs of CABG patents and their spouse. Both of them have gained adequate knowledge

Cylindrical diagram showing Distribution of patient and spouse knowledge score criterion

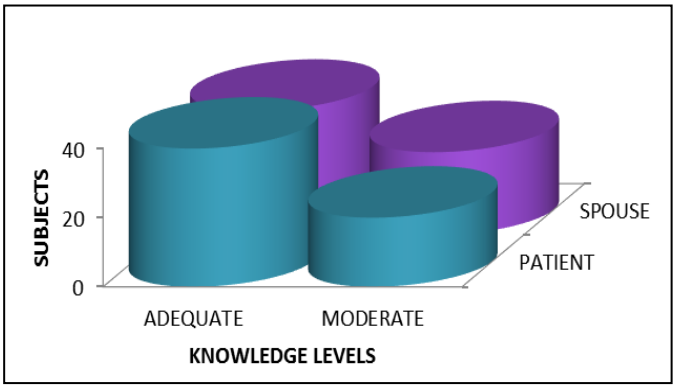

Fig 2: Distribution of patient spouse by knowledge score

Above figure shows there is a slight difference in adequate knowledge between patient and spouse i.e. patients are having (7 %) more knowledge in comparison to their spouse.

Discussion

The data findings have been organized and discussed under the following sections.

Section I: Description of demographic profile of CABG patients and spouses.
Section II: Association of knowledge scores of patients during recovery from CABG surgery.
Section III: Association of knowledge scores of spouses during recovery from CABG surgery.
Section IV: Correlation between knowledge score of CABG patients and their spouses
Section V: Effectiveness of health education module on patient and spouse.

Section I: Demographic profile of CABG patients

Majority of the CABG patients belong to the age group of 51 – 60 years. Majority of the patients 52(86.67%) are male and most of the patients whose income falls in the range of Rs 6000-10,000 per month occupation belong to Business 21(35%) and most of the patients 21(35%) have completed their education up to high school.

Section II: Association of knowledge scores of patients.

From the present study it is evident that patients are having inadequate knowledge 40(66.6%) in all the areas of learning needs.

Section III: Association of knowledge scores of spouses

From the present study it is evident that spouses are having inadequate knowledge 36(60%) in all the areas of learning needs.

Section IV: Correlation between knowledge score of CABG patients and their spouses

There is no statistically significant difference r=0.592 & p=0.000 < 0.01 between the patient and spouse knowledge levels however a low positive correlation between them exists.

Section V: Effectiveness of health education module on patient and spouse.

There is no significant difference in gaining knowledge on learning needs of CABG patients & spouse through health education module by the patient & spouse. 66% (40) patients have gained more knowledge and 60 %(36) spouses have gained more knowledge.

Suggestions

1. A comparative study can be conducted between the literate and illiterate population.
2. The same study can be replicated on a large sample to generalize the findings to a large population.

Conclusion

The present study reveals that most of the patients and spouse are having inadequate knowledge on life style modification after CABG surgery. Hence the investigator developed health education module on learning needs of the patient and spouse during recovery, which is appropriate, feasible and motivates the patient and spouse to update the knowledge.

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