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A Study to Assess the Effectiveness of Video Assisted Teaching Program on Knowledge regarding Cardiac Rehabilitation in Patients undergoing CABG among Primary Care Givers in L. P. S Institute of Cardiology (Kanpur)

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Abstract: ***A study to assess the effectiveness of video assisted teaching program on knowledge regarding cardiac rehabilitation in patients undergoing CABG among primary care givers in selected hospital of Kanpur. Material and Methods: A quasi experimental non randomized control group design was used for the present study. A study sample of 80 primary care givers were selected 40 in each group by purposive sampling technique. The data was collected by self - structured questionnaire regarding cardiac rehabilitation among primary care givers of CABG Patients in L. P. S Institute Of Cardiology. The data was analyzed in accordance with the objectives of the study using descriptive and inferential statistics i.e. Frequency, Percentage Distribution, mean, standard Deviation, t - value and chi - square. Results: The study findings reveal that the Mean ±SD of Post test Knowledge Score of Primary Care Givers (19.62±3.59) was higher than the Mean ±SD of pretest knowledge score of primary care givers (6.65± 2.27). The calculated unpaired t - value of post - test knowledge score of control group with posttest knowledge score of experimental groups of 17.1 was found statistically significant. The t value showed that there is a statistically significant difference between mean posttest knowledge score of control and experimental group regarding cardiac rehabilitation among primary care givers of CABG patients. Chi - square values have shown that there was significant association of demographic variables i. e. Age, Gender and Diet Preference and with family history of MI there was no significant association with knowledge regarding cardiac rehabilitation among primary care givers of CABG patients. Conclusion: It was concluded from the findings of the study that there was significant association of demographic variable i. e. Age, Gender, Diet Preference and with other demographic variable there was no association with knowledge regarding cardiac rehabilitation. The knowledge of primary care givers was improved, it was helpful for the primary care givers in improving their knowledge level.***

Keywords: Cardiac Rehabilitation, CABG, Primary care givers, Video assisted teaching Program

1. Introduction

"Keep thy heart with all diligence; for out of it flows the issues of life"

- Proverbs 4: 23

Cardiovascular diseases (CVDs) are a group of disorders of the heart and blood vessels. Heart attacks and strokes are usually acute events and are mainly caused by a blockage that prevents blood from flowing to the heart or brain. The most common reason for this is a build - up of fatty deposits on the inner walls of the blood vessels that supply the heart or brain. Strokes can be caused by bleeding from a blood vessel in the brain or from blood clots.1 The most important behavioral risk factors of heart disease and stroke are unhealthy diet, physical inactivity, tobacco use and harmful use of alcohol. The effects of behavioral risk factors may show up in individuals as increased blood pressure, blood glucose, lipids, overweight and obesity. These "intermediate risks factors" can be measured in primary care facilities and indicate an increased risk of heart attack, stroke, heart failure and other complications.2 Cardiovascular disease (CVD) is the leading cause of mortality worldwide, with the majority of these deaths occurring in low to middle income countries. In India, CVD has fourth leading contribution to years of life lost, a measure of loss of lives during the productive years. The World Health Organization (WHO) reports the annual age - adjusted CVD mortality rate in men and women to be 386 and 283/100, 000 respectively. These rates are similar to other South Asian countries but much greater than that observed in the United States (US) and most European countries.[3]

Coronary artery bypass surgery creates a new path for blood to flow around a blocked or partially blocked artery in the heart. The surgery involves taking a healthy blood vessel from the chest or leg area. The vessel is connected below the blocked heart artery. The new pathway improves blood flow to the heart muscle.[4] There are two types of CABG operations currently available: on - pump and Off - pump surgery. On - pump procedure require the surgeon to open the chest bone, stop the 3 patient's heart, and place the patient on a heart - lung machine. this machine takes over the function of patient's heart, delivering oxygenated blood throughout the body and brain while the bypass is performed. Off - Pump CABG is a newer, minimal - access procedure, the off - pump method eliminates the need for the surgeon to stop the heart and to place the patient on bypass. The surgeon operates directly on the beating heart, reducing the risk for bleeding

and stroke associated with on pump procedure. Selection of an on - pump versus off - pump procedure partly depends on the health of the individual patient.[11]

Due to demographic shifts, epidemiological transition and increasing urbanization and associated unhealthy lifestyles, there has been an increase in CVD risk factors (i. e. smoking, sedentary lifestyle, obesity, hypertension and hypercholesterolemia) in India. These factors have also contributed to CVD becoming more prevalent in rural areas of the country. However recent reports suggest that increasing number of patients are being discharged alive from hospitals after acute cardiac events and interventions. These patients constitute the major pool of those eligible to attend cardiac rehabilitations and secondary prevention programs.[5]

Cardiac rehabilitation is a professionally supervised program to help people recover from heart attacks, heart surgery and percutaneous coronary intervention procedures such as stenting, angioplasty and CABG. Cardiac rehabilitation programs usually provide education and counselling services to help heart patients increase physical fitness, reduce cardiac symptoms, improve health and reduce the risk of future heart problems, including heart attack.

Cardiac rehabilitation and secondary prevention programs should include advice regarding return to activities of daily living and return to work; any advice should take consideration of the physical and psychological status of the patient the nature of the activity or work proposed and the work environment. Moreover, it is important that advice and support is individual and responsive to patient or caregiver needs. Cardiac rehabilitation following AMI is an essential component of professional and personal management. The following are recommendations for managing rehabilitation of clients who have suffered an AMI: -

1) All client with cardiovascular disease should adopt a cardioprotective dietary pattern.
2) Intensive dietary advice, compliance checks, and long - term follow - up should be given, preferably by a dietitian.
3) For overweight and obese clients with CHD the combination of reduced carbohydrate diet and increased physical activity is recommended.

Rehabilitation plan is designed to meet patient's needs. He may need weeks, months or longer to learn how to manage his condition and develop healthier habits. Many programs last only three months, but some continue for years.6

2. Literature

A quasi - experimental one group pretest post - test study was performed on total of 60 students of BSc nursing first year in Yashraj college of nursing through questionnaire on basis of findings, in pre - test 46 (77%) of students had inadequate knowledge, 14 (23%) had moderate knowledge and 0% had no knowledge. It revealed that video assisted teaching Program improved the knowledge of students regarding CABG and cardiac rehabilitation.[7]

A study on knowledge regarding cardiac rehabilitation among staff nurses working in ICCU in Dr. Prabhakar kore hospital. A one group pre - test post - test pre - experimental research design was adopted to carry out the present study. The study revealed that there is effective teaching strategy to improve the knowledge among ICCU nurses. There is no significant association between knowledge scores and sociodemographic variables. A sample size of 40 nurses in the pre - test 47.5% had poor knowledge 47.5 had average and 5% had good knowledge where as in post - test all the subjects had good knowledge (100%).[8]

A quasi - experimental study with a purposive sampling was carried out where 132 acute coronary syndrome patients hospitalized for treatment were recruited and allocated to the experiment and control group with and without caregivers. There was not a statistically significant difference between both the groups in the physical health domain (F=1.316, p - 0.266). The results indicated that a structured cardiac educational intervention and cardiac rehabilitation with the involvement of the caregivers have significant effects on the quality of life of cardiac patients. The findings provide useful evidence to improve health outcomes of acute coronary syndrome patients involving the caregivers.[9]

A cross - sectional study (Sampath V et al, 2020) of coronary risk factors of CAD and their association with premature CAD was conducted among male patients of freshly diagnosed and confirmed cases of CAD attending tertiary care cardiac hospital in Pune, Maharashtra. The estimated sample size was n=216. Physical inactivity, overweight, and obesity were found in 54%, 69.4% and 14.7%of 232 participants respectively. Young population warrant cost effective interventions through various Information, Education and Communication (IEC) activities to impede the increasing incidence of premature coronary artery disease.[10]

3. Problem Definition

1) **Assess:** The outcome of video assisted teaching program in knowledge regarding cardiac rehabilitation among primary care givers.
2) **Effectiveness:** Improve the knowledge regrading cardiac rehabilitation in primary care givers of CABG patients through video assisted teaching program
3) **CABG:** On - pump and off - pump CABG surgery patients willing to participate in L. P. S Institute of Cardiology.
4) **VAT:** Video assisted teaching is an audio - visual method of 30 minutes regarding Cardiac Rehabilitation including a general view of the program, with physical, psychological and vocational rehabilitation as main components administered to primary care givers with a view to increase their knowledge.
5) **Primary Care Givers:** Close family member of the patients undergone CABG who will take care of the patients in the future.
6) **Cardiac Rehabilitation:** Cardiac rehabilitation is a supervised program regarding physical, psychological and vocational rehabilitation through video assisted teaching program in order to increase knowledge and prevent further complications.
7) **Knowledge:** In this study it refers to the understanding and information acquired regarding cardiac rehabilitation through video assisted teaching program of 30 mins assessed by 30 questions for the same.

8) **Population:** Primary care givers of CABG patients in L. P. S Institute of Cardiology, Kanpur.
9) **Sample:** 80 primary care givers, 40 in each group control and experimental

4. Material and Method

Research design: Quasi Experimental Non - randomized control group
Research setting: L. P. S Institute Of Cardiology, Kanpur, U. P.
Variable: Independent Variable - Video Assisted Teaching Program
Dependent Variable - Knowledge score of primary care givers of patient undergoing CABG.
Sampling Technique: Purposive sampling technique

5. Result/ Discussion

Table 1: Frequency and percentage Distribution of experimental group for Post CABG patients based on socio - demographic variables.

Demographic Variable	Category	Experimental Group (n=40)	
		Frequency	Percentage
Age	20- 30 yrs	00	00%
	31-40 yrs	05	12.5%
	41-50 yrs	08	20%
	>50 yrs	27	67.5%
Gender	Male	39	97.5%
	Female	01	2.5%
	Transgender	00	0%
Religion	Hindu	23	57.5%
	Muslim	14	35%
	Christian	01	2.5%
	Others	02	5%
Education	8th Standard or above	02	5%
	High School	07	17.5%
	Intermediate	31	77.5%
	Illiterate	00	0%
Occupation	Business	07	17.5%
	Government	14	35%
	Private	19	47.5%
	Unemployed	00	0%
Income	<10,000	01	2.5%
	10,000- 15,000	10	25%
	15,000- 20,000	08	20%
	>20,000	21	52.5%
Personal Habits	Yes	36	90%
	No	04	10%
Co- Morbidity	Yes	32	80%
	No	08	20%
Diet Preference	Vegetarian	06	15%
	Non Vegetarian	29	72.5%
	Eggetarian	05	12.5%
Family history of MI	Yes	28	70%
	No	12	30%

Table 2: Frequency and percentage Distribution of Control group for Post CABG patients based on socio - demographic variables

Demographic Variable	Category	Control Group (n=40)	
		Frequency	Percentage
Age	20- 30 yrs	1	2.5%
	31-40 yrs	15	37.5%
	41-50 yrs	23	57.5%
	>50 yrs	01	2.5%
Gender	Male	36	90%
	Female	04	10%
	Transgender	00	0%
Religion	Hindu	16	40%
	Muslim	21	52.5%
	Christian	00	0%
	Others	03	7.5%
Education	8th Standard or above	02	5%
	High School	03	7.5%
	Intermediate	35	87.5%
	Illiterate	00	0%
Occupation	Business	06	15%
	Government	05	12.5%
	Private	29	72.5%
	Unemployed	00	0%
Income	<10,000	01	2.5%
	10,000- 15,000	06	15%
	15,000- 20,000	11	27.5%
	>20,000	22	55%
Personal Habits	Yes	34	85%
	No	06	15%
Co- Morbidity	Yes	33	82.5%
	No	07	17.5%
Diet Preference	Vegetarian	11	27.5%
	Non Vegetarian	27	67.5%
	Eggetarian	02	5%
Family history of MI	Yes	33	82.5%
	No	07	17.5%

Table 3: Distribution of primary care givers knowledge scores in pre - test in Experimental group

Knowledge Score		Experimental group	
		Frequency	Percentage
Post-Test	Inadequate (0- 10 Score)	00	0%
	Moderate (11- 20 Score)	26	65%
	Adequate (21- 30 Score)	14	35%

Table 4: Distribution of primary care givers knowledge scores in post - test in Experimental group

Knowledge Score (Max Score- 30)		Control Group	
		Frequency	Percentage
Pre-Test	Inadequate (0- 10 Score)	38	95%
	Moderate (11- 20 Score)	02	5%
	Adequate (21- 30 Score)	00	00%

Table 5: Frequency and percentage distribution of pre - test knowledge score in control group

Knowledge Score (Max Score- 30)		Experimental group	
		Frequency	Percentage
Pre-Test	Inadequate (0- 10 Score)	39	97.5%
	Moderate (11- 20 Score)	01	2.5%
	Adequate (21- 30 Score)	00	00%

Table 6: Frequency and percentage distribution of post - test knowledge score in control group

Knowledge Score		Control Group	
		Frequency	Percentage
Post-Test	Inadequate (0- 10 Score)	39	97.5%
	Moderate (11- 20 Score)	01	2.5%
	Adequate (21- 30 Score)	00	00%

Table 7: Association between pretest knowledge score of experimental group and demographic variable of post CABG patients

Experimental Group		Pretest Knowledge				X^2 Value
		Inadequate		Moderate		
Demographic Variables		Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)	
Age	20- 30 yrs	00	0 %	00	0%	12.397
	31-40 yrs	04	10%	01	2.5%	
	41-50 yrs	08	20%	00	0%	
	>50 yrs	27	67.5%	00	0%	
Gender	Male	38	95%	01	2.5%	38.05*
	Female	01	2.5%	00	0%	
	Transgender	00	0%	00	0%	
Diet Preference	Vegetarian	06	15%	00	0%	30.73
	Non Vegetarian	28	70%	01	2.5%	
	Eggetarian	05	12.5%	00	0%	
Family history of MI	Yes	28	70%	00	0%	1.69
	Non-Vegetarian	11	27.5%	01	2.5%	

6. Conclusion

The knowledge scores of the primary care givers of CABG patients were inadequate in the pretest. There was a significant difference between mean pretest knowledge scores and posttest knowledge scores of primary care givers in experimental group. Therefore, video assisted teaching method proved to be one of the effective teaching methods to provide knowledge to primary care givers. There is significant association between pretest knowledge scores with selected demographic variables for experimental and control group of primary care givers**.**

7. Recommendations

On the basis of study findings, following recommendations are made:

- The study can be replicated on the patients directly to enhance efficiency.
- A similar study can be undertaken using other teaching methods and teaching aids.
- The study can be done on different samples and different teaching settings example in a community setting, on clinical nurses and health care teams.
- A study can be done among patients with other cardiac surgery

8. Ethical Considerations

1) Ethical clearance was taken from Ethical Clearance Committee
2) Written informed consent was taken from the subjects.

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