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A Study to Assess the Effectiveness of Planned Teaching Programme on Knowledge Regarding Myocardial Infaraction and its Prevention among the Relatives of Patients Attending Diabetic Clinic at BVVS HSK Hospital and Research Centre, Bagalkot

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Abstract **Original Research Article**

Background of the study: Myocardial infarction is one of the most common complications associated with CEA. This is most likely related to the frequent concurrent occurrence of coronary and carotid atherosclerotic disease. The reported general incidence of perioperative myocardial infarction after CEA is approximately 1% to 4%.98 Operative stress from surgery in addition to perioperative hypertension, increased vascular volume, tachycardia, and the use of intraoperative barbiturates may be predisposing factors. Careful preoperative cardiac evaluation and strict attention to intraoperative and postoperative hemodynamic variables and cardiac monitoring help minimize perioperative cardiac morbidity. ***Aim*:** the aim of study was to assess the existing knowledge regarding Myocardial infarction and its prevention among the relatives of patients attending Diabetic clinic. ***Methodology*:** The research design selected for this study was pre-experimental one pre-test -post-test design. The sample size comprises of 30 relatives of patients attending Diabetic clinic at BVV sangha's HSK Hospital and research centre, Bagalkot. The sampling technique adopted for this study will be convenient sampling technique. In the present study the data will be collected by using Structured closed ended Questionnaire, the data analysis done by using descriptive and inferential statistics in terms of frequency distribution, percentage, mean, mean percentage, Standard Deviation, paired 't' test and Chi-square test. ***Result*:** The finding revealed In the area of knowledge on "Prevention", pre-test mean knowledge score was 1.01 with SD ±3.23 which is 14% of total score where as post-test mean knowledge score was 3.01 with SD ±4.3 which is 61.4% of total score. The effectiveness of STP on Prevention, mean score was 2.37 with SD ±1.02 which is 47.4% of total score and As the calculated t value (24.17) was much higher than table 't' value (2.045) the hypothesis: **H_1** -there is a significant difference between the pretest knowledge and post test knowledge scores of the patients relatives on M.I.& its prevention is accepted. ***Conclusion***: The study proved that providing existing knowledge regarding Myocardial infarction and its prevention among the relatives of Patients attending Diabetic clinic was effective, scientific, and Logical.

Keywords: Assess, effectiveness, knowledge, planned teaching programme, myocardial infarction and diabetic patients.

INTRODUCTION

Heart is one of body's most important organ. Essentially a pump, the heart is a muscle made up of four chambers separated by valves and divided into two halves. Each half contains one chamber called an atrium and one called a ventricle. The atria (plural for atrium) collect blood, and the ventricles contract to push blood out of the heart. The right half of the heart pumps oxygen-poor blood (blood that has a low amount of oxygen) to the lungs where blood cells can obtain more oxygens [1].

Cardiovascular diseases are at present the leading causes of death in the developed countries. Ischemic heart disease is the cause of 25 – 30% of deaths in most industrialized countries [2].

Myocardial infarction (MI) or acute myocardial infarction (AMI), commonly known as a heart attack, is

the interruption of blood supply to a part of the heart, causing heart cells to die. This is most commonly due to occlusion (blockage) of a coronary artery following the rupture of a vulnerable atherosclerotic plaque, which is an unstable collection of lipids (fatty acids) and white blood cells (especially macrophages) in the wall of an artery. The resulting ischemia (restriction in blood supply) and oxygen shortage, if left untreated for a sufficient period of time, can cause damage or death (infarction) of heart muscle tissue (myocardium) [3].

Acute myocardial infarction is one of the most common diagnosis in hospitalized patients in the industrialized countries, which is a serious complication of atherosclerotic coronary heart disease. In most patients (80-95%) it results from thrombotic occlusion of the related vessel resulting in infarct. Myocardial ischemia and necrosis set in within about 20-40 minutes. This occurs as a wavefront starting from the sub-endocardial region and progressing to the sub epicardial region. The entire process usually takes 6 hours to complete. Therefore any intervention for limiting infarct size should be initiated in this time window of 6 hours [4].

Classical symptoms of acute myocardial infarction include sudden chest pain (typically radiating to the left arm or left side of the neck), shortness of breath, nausea, vomiting, palpitations, sweating, and anxiety (often described as a sense of impending doom) Women may experience fewer typical symptoms than men, most commonly shortness of breath, weakness, a feeling of indigestion, and fatigue. Approximately one quarter of all myocardial infarctions are "silent", without chest pain or other symptoms [5].

Hence researcher has planned to undertake “a study to assess the effectiveness of planned teaching programme on knowledge regarding myocardial infaraction and its prevention among the relatives of patients attending diabetic clinic at bvvs hsk hospital and research centre, Bagalkot.”

MATERIAL AND METHODS

Study design and participants

Present study was pre-experimental one pre-test post-test design. Conducted between 06-10--2024 to 25-10-2024, A sampling technique adopted for this study will be convenient technique used to select the 30 subjects for the present study. Diabetic patients with who were able to understand read and write Kannada or English and available at the time of data collection are selected for the study. In the present study the data will be collected by using Structured closed ended Questionnaire.

Data Collection Procedure:

Prior permission was taken from relevant institutions before the beginning of data collection procedure The data collection was carried out from (06-10-2024 to 25-10-2024), among diabetic patients who are admitted in the BVVS HSK Hospital and Research Centre, Bagalkot. Permission was obtained from the medical superintendent of BVVS HSK Hospital before data collection. Written consent was obtained from 30 samples. diabetic patients were selected on the basis of convenient sampling technique. Then the investigator conducted pretest on assessment of knowledge among diabetic patients by using Structured closed ended Questionnaire. Then the post-test was assessed after intervention.

Data Analysis

Data will be analysed by using descriptive and inferential statistics. Numerical data obtained from the sample was organized and summarized with the help of descriptive statistics like percentages, mean and standard deviation. Chi-square test used to find out assess the existing knowledge regarding Myocardial infarction and its prevention among the relatives of patients attending Diabetic clinic.

RESULTS

Description of socio-demographic characteristics of subjects

Percentage wise distribution of relatives according to age groups reveals that out of 30 subjects, 40 % of the subjects belong age group of above 36 years, followed by 23.3% in the age group of 18-24 years, 22.3% were 25-30 years of age and 13.3% in the age group of 31-36 years, most of gender reveals that, 43.33% of subjects were male and remaining 56.67% were females. The elderly people are commonly accompanied by the females, most of family type shows that 56.67% of subjects were from nuclear family, 36.67% of subjects were from joint family, and remaining 6.67% were from extended family, most of educational status reveals that out of 30 subjects, 26.67% of the subjects had no formal education, 20% up to primary education, 13.33% had high school education, 30% had PUC and remaining 10% had degree, most of occupation shows that out of 30 subjects 40% subjects were unemployed, 50% were employed, and remaining 10% of the subjects were retiered. The majority of the relatives are unemployed and they are residing at home, most of their monthly income shows that, 20% subjects had an income below Rs 4000/-, followed by 23.33% subjects with income between Rs. 4000/--7000/-, 36.67% had Rs 7000/- 10000 and remaining 20% had about Rs.10000/-and above, most of marital status shows that 60% were married, 23.33% were unmarried, 10% divorced and 6.67% widowed/er, most of relation with the patient that out of 30 subjects about 33.33% were spouse, 23.33% were son, 26.67% were daughter and remaining 16.67% other relations and most sources of information reveals that 66.67% of subjects relies mainly on mass media 13.33% depend on health workers and

remaining 20% of them get the information through friends / neighbors / parents /relatives.

Assessment of knowledge of relatives regarding M.I and its prevention

Table 5.1: Percentage wise distribution of study subjects according to levels of knowledge in pre-test, N=30

Test	Levels of knowledge	Number(f)	Percentage (%)
Pre test	Excellent	0	0
	Good	0	0
	Average	2	6.67
	Poor	17	56.67
	Very poor	11	36.67

Percentage distribution of study subjects in pre-test reveals that out of 30 subjects 2 (6.67%) had average knowledge followed by 17 (56.67%) subjects with poor knowledge and 11 (36.67%) with very poor knowledge regarding M.I & its prevention.

Assessment of the effectiveness of the STP on knowledge regarding Myocardial infarction and its prevention

Part-I: Comparison of knowledge level of relatives of patients attending diabetic clinic in pre-test and post-test.

Knowledge wise comparison of study subjects in pre-test and posttest reveals the following results. In pre-test, out of 30 subjects 6.67% had average knowledge followed by 56.67% subjects with poor knowledge and 36.67% with very poor knowledge regarding geriatric care. However after STP in post-test, 40% subject with excellent, 46.66% subjects with good, 6.67% with average and 6.67% subjects with poor knowledge regarding geriatric care.

Part-II: Area wise effectiveness of STP on knowledge regarding M.I & its prevention.

Knowledge area	Max. score	Pre-test (O_1)		Post-test (O_2)		Effectiveness (O_2-O_1)	
		Mean ± SD	Mean %	Mean ± SD	Mean %	Mean ± SD	Mean %
General aspects of Heart	5	1.7±1.02	34	4.3±2.34	86	2.6±1.02	52
Causes, symptoms and management of Myocardial infarction	20	5.5±2.8	27.5	15.06±5.2	75.3	9.56±1.02	47.8
Prevention of management	5	0.7±3.23	14	3.07±4.3	61.4	2.37±1.02	47.4
Total	30	7.9± 2.27	26.33%	23.06 ± 4.186	76.86%	15.17±3.38	50.57%

In the area of knowledge on "General aspects regarding Heart", pre-test mean knowledge score was 1.2 with SD ±1.02 which was 34% of total score, where as post-test mean knowledge score was 3.05 with SD ±2.34 which was 86% of total score. The effectiveness of PTP on General aspects regarding Heart, mean score was 2.6 with SD ±1.02 which is 52% of total score.

In the area of knowledge on "Causes, symptoms and management", pre-test mean knowledge score was 1.2 with SD ±1.02 which is 27.5% where as post-test mean knowledge score was 17 with SD ±5.2 which is 75.3%. The effectiveness of STP on Causes, symptoms and management, mean score was 9.56 with SD ±1.02 which is 47.8% of total score.

In the area of knowledge on "Prevention", pre-test mean knowledge score was 1.01 with SD ±3.23 which is 14% of total score where as post-test mean knowledge score was 3.01 with SD ±4.3 which is 61.4% of total score. The effectiveness of STP on Prevention, mean score was 2.37 with SD ±1.02 which is 47.4% of total score.

Part-III: Testing of Hypothesis

Significant difference between the pretest knowledge and post test knowledge scores of relatives of patient attending Diabetic clinics.

Test	Mean	Std. Error	Mean Diff	SD Diff	Paired t-value	Table value
Pre-test (x_1)	7.9	0.62	15.17	3.38	24.17	2.045
Post-test(x_2)	23.06					

As the calculated t value (24.17) was much higher than table 't' value (2.045) the hypothesis: **H_1** - there is a significant difference between the pretest knowledge and post test knowledge scores of the patients relatives on M.I.& its prevention is accepted. Findings revealing the presence of significant difference between

pre-test and post-test knowledge scores, hence the STP on M.I. & its prevention which is prepared by the researcher was proved to be effective.

Association between posttest knowledge scores and selected socio demographic variables

Sl. No	Socio demographic variables	Df	Chi-square value	Table value	Level of significance	Significant
1	Age	1	0.010	3.84	0.05	Not significant
2	Gender	1	0.361	3.84	0.05	Not significant
3	Type of family	1	0.814	3.84	0.05	Not significant
4	Educational status	1	0.201	3.84	0.05	Not significant
5	Occupation	1	0.052	3.84	0.05	Not significant
6	Family income	1	1.634	3.84	0.05	Not significant
7	Marital status	1	0.556	3.84	0.05	Not significant
8	Relation with the patient	1	0.361	3.84	0.05	Not significant
9	Sources of information regarding geriatric care	1	0.018	3.84	0.05	Not significant

As the calculated values were lesser than table value (3.84) at the degree of freedom 1, the hypothesis **H_2** is rejected. So, there is no significant association between post -test knowledge scores and sociodemographic variables of relatives such as age, gender, type of family, education, occupation, family, education, occupation, income, marital status, relationship with the patient and source of knowledge regarding M.I.& its prevention. Findings revealing that, no extraneous variables have affected on the knowledge scores and hence the planned teaching programme is improved the knowledge regarding Myocardial infarction & its prevention.

DISCUSSION

A similar descriptive study was conducted by the North American heart association US among the caregivers The purpose of the study was to present a portrait of family caregivers present, and to compare it to a portrait of caregivers in the past. The present figure shows that 44% of caregivers took care of older persons. The average age of caregivers is 48.0. About half of all caregivers are between the ages of 18 and 49 (51%). Two-thirds of caregivers are female (66%) and one-third are male (34%). The large majority of caregivers take care of a relative (86%) ie 9 in 10 (96%) of caregivers of veterans are female and 70% provide care to their spouse or partner, and 14% care for a friend, neighbor, or other non-relative. caregivers report that their care recipient is widowed (35%), one-quarter say their recipient is single, never married (27%), another one in four report their loved one is status. employed (57%), caregivers in households with less than $50,000, source information related to caregiving, caregivers would seek caregiving provider (36%), Internet (25%), while two in ten would turn to family, friends, or other caregivers (20%).So this study was sowing that portrait of caregivers is changed from past to present.

A similar experimental study was conducted was conducted to assess the effectiveness of teaching programme regarding knowledge on Clinical practice guidelines among the home caregivers (professionals and non- professionals) at America. 48 samples were selected randomly. The prior knowledge assessment was carried out using a questionnaire followed by teaching programme sessions regarding knowledge on geriatric care. Results showed that the obtained 't' value [23.29, $P<0.05$] was higher than the table value indicating the effectiveness of clinical practice guidelines. The study concluded that the teaching was found to be effective in improving the knowledge of the caregivers in family setting.

A similar pre-experimental research study conducted was conducted to evaluate the effectiveness of video assisted teaching programme on improving the knowledge regarding dementia care among Nursing students at Bangkok. Using purposive sampling technique 50 subjects were selected. Data was collected by using Structured closed ended questionnaire. Results showed that (($t=32.75$, $p<0.05$) the PTP is highly effective and the study generalised that Planned teaching programme was highly effective in improving the knowledge regarding dementia care for older adults among the BSc nursing students.

RECOMMENDATIONS

A comparative study can be conducted between relatives of Diabetic clinics and general population on myocardial infarction and its prevention.

CONCLUSION

After thorough analysis of the data, it is understood that increase awareness of myocardial infarction and its prevention in the society which demands profession to pay more attention to the care of diabetic patients and interventions like planned teaching programme on knowledge regarding myocardial

infaraction and its prevention to enhance their quality of life of diabetic patients. Hence it is clear that planned teaching programme is improved the knowledge regarding Myocardial infarction & its prevention among diabetic patients.

Ethical Consideration

The study was approved by the Institutional Ethical Clearance Committee, BVVS Sanjushree Institute of Nursing Sciences, Bagalkot.

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Conflicts of Interest: There are no conflicts of interest.

Acknowledgement: None

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