"A STUDY TO ASSESS THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON LIFESTYLE MODIFICATIONS OF PATIENTS WITH MYOCARDIAL INFARCTION ATTENDING CARDIOLOGY OPD DEPARTMENT IN SELECTED HOSPITALS AT RAJASTHAN"

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ABSTRACT

Myocardial infarction results in an enormous burden of increased mortality and morbidity experience of a serious illness, particularly if it is a sudden and life -threatening event for spouse and wider family. These events threaten the patient's stability, security, adaptability, beliefs and assumption towards his normal healthy life this study is to assess the effectiveness of structured teaching programme on lifestyle modifications of patients with myocardial infarction attending cardiology opd

1. INTRODUCTION

BACKGROUND OF THE STUDY

Myocardial infarction generally occurs when there is an abrupt decrease in coronary blood flow following a thrombotic occlusion of a coronary artery previously narrowed by atherosclerosis. It slowlyy developing, high-grade coronary stenoses usually do not precipitate acute infarction because of the development of a rich collateral network overtime Instead, infarction occurs when a coronary artery thrombus develops rapidly at site of vascular injury.

The mortality rate with acute infarction is approximately 30 percent, with more than half of these deaths occurring before the stricken individual reaches the hospital . Although

mortality rate after admission for myocardial infarction has declined by about 30 percent over the last two decades, approximately 1 of every 25 patients who survives the initial hospitalization dies in the first year after myocardial infarction. Survival is markedly reduced in elderly patients (age 65 years), whose mortality rate is 20 percent at 1 month and 35 percent at 1 year after infarction. Irreversible necrosis of part of heart muscle is almost always due to coronary atherosclerosis.

This myocardial injury is produced or facilitated by factors such as cigarette smoking, hypertension and lipid accumulation. In most cases infarction occurs when an atherosclerotic plaque fissures, ruptures or ulcerates and when conditions (local or systemic) favor thrombogenesis so that a mural thrombus forms at the site of rupture and leads to coronary artery occlusion.

2. NEED FOR THE STUDY

Myocardial infarction results in enormous burden of increased mortality and morbidity experience of a serious illness, particularly if it is a sudden and life threatening event for spouse and wider family. These events threaten the patient‟s stability, security, adaptability, beliefs and assumption towards his normal healthy life.

Sue A. Thomas, et al (2008) depicted that treatment of cardiovascular diseases improves as the population ages and when the incidence and prevalence of heart failure are increasing. More than 5 million patients in the United States are living with heart failure and 550 000 new cases are diagnosed each year. The estimated prevalence of depression is 100 cases per 1000 persons in the population aging more than 65 years old. Strong evidence links depression to increased morbidity and mortality in patients with coronary heart disease's he underlying cause of half of the cases of heart failure is depression. Depression is associated with mortality in outpatient's inpatients and hospitalized patients who have heart failure. The association of depression with mortality in these patients is independent of anxiety and social isolation. In a sample of patients (N=153) enrolled in the Sudden Cardiac Death in Heart Failure trial depression (P=.02, hazard ratio=2.2) was an independent predictor of mortality. On the basis of analysis via the Cox proportional hazards model, patients with mild depression were 2.2 times as likely to die as those who were not depressed. Mortality due to all causes was 12% for patients with depression and 9% for others.

Brundtland G.H., (2002) Director General of WHO believes that the time for the global debate should be directed as much toward prevention as to cure. With an increased focus on prevention, the entire public health community stands to gain. Among non cammunicable diseases myocardial infarction ranks first because it is one of the leading causes of morbidity and premature mortality in both developed and developing countries. The World Health Report 2002 urges countries to adopt policy and programmes to promote population wide interventions

such as reducing salt in processed foods, cutting dietary fat encouraging exercise in higher consumption of fruits and vegetables, and to lowering smoking. We need policies that make healthier choices the easier choices.

Data on risk factors of CAD comes from several major studies. In the Framingham study (one of the most widely known) men and women were observed for 20years overtime. It was noted that elevated serum cholesterol (greater than 240 mg/dl) elevated blood pressure (BP) (greater than 160 mm hg), and tobacco use (one or more packs a day) were positively correlated with an increased incidence of CAD.

Chronic diseases are currently characterized as a public health problem, since they are the leading causes of death worldwide. They occur, mainly, due to increased longevity and most of them correspond to cardiovascular diseases. Statistics project that the total number of deaths from these diseases will increase from 17 million in 2008 to 25 million in 2030. Among cardio vascular events the Acute Myocardial Infarction (AMI), is an ischemia resulting from lack of blood supply to the coronary arteries which can cause necrosis of the heart muscle

3. OBJECTIVE

- To assess the knowledge on lifestyle modifications of patients with myocardial infarction.

- To assess the effectiveness of structured teaching programme on lifestyle modifications of patients with myocardial infarction.

- To associate pre and post test knowledge of myocardial infarction patients with selected demographical variables.

4. ASSUMPTIONS

Myocardial infarction patients have some knowledge on life style modification.

Knowledge influences the attitude and practice regarding life style modification.

Nurses have an important role in educating the myocardialinfarction patients about lifestyle modifications with structured teaching programme will enhance the knowledge regard of lifestyle modifications among patients with myocardial infarction.

5. HYPOTHESIS

H-1: There is a significant difference between pre-test knowledge and post-test knowledge of patients with regard to lifestyle modifications of myocardial infarction.

H-2: There is a significant association between post-test knowledge scores of patients with myocardial infarction and their selected demographic variables

6. REVIEW OF LITERETURE

Dr.Poongavanam Paranthaman et al (2010) conducted a comparison study of Acute myocardial infarction as one of the most common diagnoses in hospitalized patients. The typical patient with myocardial infarction is a man more than 50 years old and woman of more than 60 years of age. They recently observed that acute myocardial infarction occurs in much younger age, more common in people with history of driving auto rickshaw in Chennai city. We know the risk factors for myocardial infarction are smoking, hypertension, diabetes, dyslipidemia, obesity, inactivity, etc. but we do not know whether any particular occupation is a risk factor for myocardial infarction. Results of this showed that out of the 612 patients studied, distribution among various occupations among them follows: 1. Auto driver: 97 (15.8%). 2. Watchman: 40 (6.5%). 3. Manual 77 (12.6%). 4. Self- employed: 74 (12.1%). 5. Office worker: 64 (10.5%). 6. Housewife: 70 (11.4%). 7. Unemployed and pensioners:190 (31%).Chi-Square test P value: 0.00.Likelihood ratio: 0.00.Linear by linear association: 0.00 which is statistically highly significant. There is a progressive increase in incidence of myocardial infarction as age advances in all occupations except in auto drivers where the peak incidence is at the age group between 35 to 45 years (33/132) which constitutes 25 % of acute myocardial infarction. In that age group it is statistically highly significant so this study revealed that the occupation also one of the risk

factors for myocardial infarction.

Einarson TR et al (2017) conducted a study about the Pprevalence of cardioviscous disease in type 2 diabetes: a systematic literature review of scientific evidence from across the world in 2007- 2017 to est. The current prevalence of CVD among adults with T2DM by reviewing literature published witin the last 10 years (2007- March 2017). They analyzed data globally. The overall CVD affects approximately 32.2% (the persons) with T2DM. CVD is a major cause of mortality among with T2DM, for approximately half deaths the study period. Coronary artery disease and stroke were the major contributors.

Jack Stewart, Gavin Manmathan, Peter Wilkinson (2017) depicted the primary prevention of Cardiovascular disease is a significant problem in the United Kingdom accounting for nearly one-third of all deaths and leading to significant morbidity. It is also of particular and pressing interest as developing countries experience a change in lifestyle which introduces novel risk factors for cardiovasculardisease, leading to a boom in cardiovascular disease risk throughout the developing world. The burden of cardiovascular disease can be ameliorated by careful risk reduction and, as such, primary prevention is an important priority for all developers of health policy. Strong consensus exists between international guidelines regarding the necessity of smoking cessation, weight optimization and the importance of exercise, whilst guidelines vary slightly in their approach to hypertension and considerably regarding their approach to optimal lipid profile which remains a contentious issue. Previously fashionable ideas such as the polypill appear devoid of in-viefficacy, but there remain areas of future interest such as the benefit of serum rate reduction and utility of reduction levels.

Margarita et.al., (2009) conducted a study on ten-year Fatal and nonfatal. Myocardial Infarction Incidence in Elderly populations in Spain. In Spain, more than 85% of coronary heart disease deaths occur in adults older than 65 years. Incidence of fatal and non-fatal myocardial infarction is high in the Spanish elderly population. Men show higher rates than women, but gender differences diminish with age.

Rajeev Gupta MD, PhD (2013)etal conducted especially coronary heart disease (CHD), are epidemic in India. The Registrar General of India reported that CHD led to 17% of total deaths and 26% of adult deaths in 2001-2003, which increased to 23% of total and 32% of adult deaths in 2010-2013. The World Health Organization (WHO) and Global Burden of Disease Study also have highlighted increasing trends in years of life lost and disability adjusted life years from CHD in India. In India, studies have reported increasing CHD prevail over the last 60 years, from 1% to 9%-10% in urban populate and <1% to 4%-6% in rural populate ions. Using more stringent criteria (clinical ± Q waves), the prevalence varies from 1%-2% in rural populations and 2%-4% in urban populateions. This may be a more realistic prevalence of CHD in India. Case-control studies have reported that important risk factors for CHD in India are smoking, diabetes, hypertension, abdominal obesity, psychosocial stress, unhealthy diet, and physical invitee. Suitable preventive strategies are required to combat this epidemic.

Kassia and ulrik (2013) conducted a study related to high intensity interval training in patients with lifestyle-induced cardio metabolic disease: a systemic review and meta-analysis. This study shows that Cardio respirestory fitness is a strong determinant of morbidand mortality. In athletes and the general population, it is established that high-intensity interval training is superior to moderate- intensity continuous training in improving Cardiac respiratory fitnesss. This is a systematic review and meta-analysis to quantify the efficacy and safety of high intensity training compared to moderate intensity continuous training in individuals with chronic cardio metabolic lifestyle diseases. High intensity interval training significantly increases Cardio respiratory fitness by almost double to that of moderate–intense continuous training in patients with life style-induced chronic diseases.

Sabin Ludt et al (2011) found that the aim of this study was to assess the quality of cardio vascular risk-factor recording and lifestyle counseling in high-risk patients in European primary care and to indent factors related to these clinical processes. In 268 general practices across Europe, 3723 records of individuals at high risk for cardiovascular diseases were audited. They found important variations in the quality of documentation of risk factors and lifestyle interventions. Recording of risk factors was best for blood pressure (92.5% of audited records, 95% CI 0.89–0.96). Lifestyle advice was recorded best for smoking cessation (65.6%, 95% CI 0.58–0.73) and worst for physical activity (38.8%, 95% CI 0.31–0.47). Of the study population, 50.6% (0.42–0.59) had elevated blood pressure levels, 59.8% (0.51–0.69) had total cholesterol >5 mmol/l, and 30.5% (0.22–0.39) were smokers. Multivariate

analyses showed that recording of risk factors and counseling were related to specific patient characteristicmore than to counseling effects. Analysis of different country results can be helpful for developing quality-improvement strategies.

Pranab Jyoti Bhattacharyya (2016) conducted a study that highlighted important differences in acute myocardial infarction in young adults compared to the older population of our region. In the young it is predominantly a disease of men with anterior wall ST elevation MI, mostly without the history of preceding angina. The predominant cardiovascular risk factors prevalent among the younger patients are dyslipidemia smoking and family history of premature CAD. On the contrary, diabetes and hypertension are more common in the older population. Angiographic single vessel disease with predominant LAD artery involvement and normal coronary arteries are common in the young whereas, double vessel, triple vessel and left main disease are more in the older patients. The majority of differences noticed in our study have been observe previously. Our study is important in fact that it establishes the significance of smoking and dyslipidemia as primary targets for effective prevention of CAD in young patients of this region. Proper advice and patient education by treating the physicians and health care providers regardingg improving lifestyle with smoking and tobacco cessation, appropriate diet modification with the consumption of more fruits and vegetables and lower fat intake and increased physical activity should be done. Targeted control of hypertension, dyslipidemia and diabetes is required. Keeping in mind that family history of premature CAD

7- CONCEPTUAL FRAME WORK

Conceptual framework helps to express abstract ideas in a more reality understandable or precise form then the original conceptualization. This conceptual framework for this study was directed from **Wiedenbach's helping art of clinical nursing theory (1969)** accordingg to Ernestine Wiedenbach (1969), Nursing is nurturing and caring for someone in a motherly fashion. Nursing is a helping service rendered with passion and with compassion skill and understanding to those in need of care counsel and confidence in the area of health. Conceptual used for this study is based on the concept of helping the patient with myocardial infarction to improve skills to cope with their disease condition and also to gain knowledge and develop desirable attitude towards lifestyle modifications.

8. METHODOLOGY

This chapter deals with the methodology to assess the effect of structured teaching programme on life style modifications of myocardial infarction patients

RESEARCH APPROACH

A **Quantitative approach** was used in this study.Quantities research the approach which is dealing with numbers and anything that is measurable in a systematic way of investigation of phenomena

and their relationship.

RESEARCH DESIGN

Pre experimental one group pre-test, post-test design was used to test the effect of structured teaching programme on life style modifications of myocardial infarction patients attending Cardiology Outpatient Department in selected hospitals of rajasthan

Table 1

Group	Pre Test	Intervention	Post test
Pre experimental group	O1	X	O2

O2-O1=E

01 Assessment of pretest knowledge regarding lifestyle modification of patients with myocardial infarction

X Intervention of structured teaching programme regarding lifestyle modifications of myocardial infarction

02 Assessment of posttes Knowledge regarding life style modifications of myocardial infarction on the 15th day in the pre experimental group after intervention

E - Effectiveness of structured teaching programmed Structured teaching programme regarding life style modification of myocardial infarction was given to the pre experimental group (in small group of 6-8 persons) through the laptop (Power Point) and booklet . Post test was conducted on 7th day after intervention in pre experimental group.

8. ANALYSIS AND INTERPRETESION

Table2: distribution of the demographic profile of the study participants (N=60)

Table 2: Demographic Profile

Demographic variables		No. of patients	%
Age	30 -39 years	4	6.7%
	40 -49 years	17	28.3%
	50 -60 years	39	65.0%
Sex	Male	44	73.3%
	Female	16	26.7%
Marital Status	Married	57	95.0%
	Unmarried	2	3.3%
	Widowed	1	1.7%
Education	No formal education	7	11.7%
	Primary school	13	21.7%
	High school	17	28.3%
	Higher secondary	9	15.0%
	Graduate	14	23.3%
Work	Private employee	21	35.0%
	Govt. employee	12	20.0%
	Self employee	9	15.0%
	Unemployed /home maker	11	18.3%
	Coolie	7	11.7%
Demographic variables		No. of patients	%
Religion	Hindu	48	80.0%
	Christian	12	20.0%
	Muslim	0	0.0%
Income	< Rs 2000	12	20.0%
	Rs 2001-5000	17	28.3%
	Rs 5001-10000	10	16.7%

	> Rs.10000	21	35.0%
Residence	Rural	8	13.3%
	Urban	52	86.7%

Table No.2 shows that the demographical in formation of myocardial infarction clients who participated in the study. The demographic data of the samples is presented in relation to their personal characteristic such as age, sex, education, religion, work status, marital status.

Table 3 Each Domain wise Pretest Percentage of Knowledge on Life Style Modification of Patients with Myocardial Infarction

SNO	Domains	No. of questions	Min – Max score	Knowledge score		
				Mean	SD	% of mean score
1	Risk factors and habits	4	0 - 4	1.87	1.36	46.75%
2	Diet	7	0 - 7	2.30	1.84	32.86%
3	Exercise	8	0 - 8	3.25	1.45	40.63%
4	Medications	3	0 - 3	1.15	.82	38.33%
5	Follow up care	3	0 - 3	1.23	.83	41.00%
	Total	25	0 - 25	9.80	4.27	39.20%

Table No.3 shows that each domain wise pre-test percentage of knowledge on life style modification of patients with Myocardial Infarction. They are having maximum knowledge in risk factors and habits (46.75%) and minimum knowledge score in Diet (32.86%).

Table 4 Pretest Level of Knowledge

Level of knowledge	No. of Patients	%
Inadequate knowledge(poor)	48	80.0%
Moderate knowledge(average)	12	20.0%
Adequate knowledge(good)	0	0.0%
Total	60	100%

Table No.4 shows the patients pretest level of knowledge.

There are 80.0% of patients having inadequate knowledge and 20.0% of them having moderate level of knowledge score and none of them are having adequate level of knowledge score.

TABLE .5 KNOWLEDGE SCORE INTERPRETATION

Min=0 Max=1 Total questions=25 Maximum marks= 25

S No.	Grade	Percentage	Marks
1.	Adequate knowledge(good)	76 – 100%	18.76-25.0
2.	Moderate knowledge(average)	50 – 75%	12.6-18.75
3.	Inadequate knowledge(poor)	0 – 50 %	< 12.5

SUMMARY OF THE STUDY

The study was done to assess the effectiveness of structured teaching programmed on lifesty le modifications of patient with Myocardial Infarction attending Cardiology OPD department in selected hospitals of rajasthan

The conceptual framework of the study was based on the Weidenbach helping art of clinical Nursing theory (1970). A pre experimental one group pre- test one group post –test design was used. The independent variable was on structured teaching program, dependent variable was the knowledge of lifestyle modifications of patient with Myocardial infarction attending cardio logy OPD department.

The study period was 4 weeks from 2.1.17 to 28.1.17 Simple random sampling technique was used for the selection of the samples. The total samples of the study consisted of 60 patients with the diagnosis of myocardial infarction. The data was collected using a structured questionnaire and structured teaching plan (laptop power point) and booklet. Scoring grade scale (refer appendix). The reliability of the interview schedule was test-retest method, the data analysis and interpretation were done by using descriptive and inferential statistics.

9 - MAJOR FINDINGS OF THE STUDY

Based on demographic findings

Majority 65% of them were between the age group of 50-60years. 28.3% of them were of 40-49 years, 6.7% of them were of 30-39 years.73.3% of them males, 26.7% of them females. 95% of them married 3.3% of them unmarried and 1.7% of them widowed, 11.7% of them had no formal education 21.7% of them studied primary level education,28.3% of them studied high school, 15.% of them had higher secondary level of education, and 23.3% of the participants are graduates. Nearly half of them were private employees, 20% of them government employee.80% of them Hindus and most of them from urban areas.

Based on knowledge level before structured teaching progamme

In pre-test more score in risk factors and habits 46.75% minimum score in diet was 32.86% and over all they were having 39.20% of score. 80% of them were having inadequate knowledge (poor), 20% of them had moderate knowledge (average knowledge) and none of them had adequate (good level) knowledge score.

Based on knowledge level after structured teaching programme

In post- test maximum score in risk factors and habits 81.75% and minimum score in the medications(management) over all they are having 79.60% of score. none of clients were having poor knowledge score,21.7% of them had an average knowledge score,78.3% of them had having adequate (good level) knowledge score.

Based on the association between the pre-test and post-test knowledge scores with selected demographic variables

The association between pre-test and post-test level of knowledge score with clients demographic variables on age, sex, education was age (F=4.84) sex (t=1.41) education (F=2.94) in that elder, more educated urban patients gained more knowledge than the others after structured teaching programme.

10. CONCLUSION

The literature says that adequate level of knowledge in lifestyle modifications of myocardial infarction patients will helps to lead the quality of life and prevents the further cardiac complications and its related consequences in their life. It improves their knowledge level of lifestyle modifications of patients with myocardial infarction and thereby ensuring safety of the patients, minimizing the risk of further complications of myocardial infarction.

11- IMPLICATIONS:

The findings of the study will have implication for Nursing Education, Nursing Administration Research.

NURSING PRACTICE

- The findings of the study clearly stated that the majority of the myocardial infarction patients have poor knowledge on lifestyle modifications

- Many of them had not received proper training of Lifestyle modifications regarding myocardial infarction before intervention, so the nurses should be more vigilant in educating the adults who are having myocardial infarction to avoid further complications.

- The findings of the study can be disseminated to motivate nurses to educate and monitor lifestyle modifications of patients to prevent further complications of myocardial infarction, plan and compliment myocardial infarction and lifestyle modifications

instruction in the Out patient department.

NURSING EDUCATION

☐ The nursing staffs and students should be taught about the importance of educating and supervising the patients on lifestyle modification regarding myocardial infarction.

☐ The nurse educator should create awareness on lifestyle modification of patients with myocardial infarction and should supervise their lifestyle modifications on prevention of myocardial infraction. It will control myocardial infarction and its complication and improve the quality of life of the patients.

☐ Nursing education should be strengthened to enable nursing students to know about lifestyle modifications of patients with myocardial infarction.

☐ Nursing curriculum should include clinical experience in conducting health teaching on lifestyle modification and its prevention (myocardial infarction), lifestyle modification of patients with myocardial infarction in various settings

NURSING ADMINISTRATION

☐ Nurse Administrator should be active in organizing and coordinating training programs for the adults with myocardial infarction.

☐ It should be ensured that the staff nurses are providing adequate instructions and guidance regarding lifestyle modifications regarding myocardial infarction Cardiac rehabilitation programs can be organized for those who are in home settings through the hospital's community reach programs.

NURSING RESEARCH

☐ This is only an initial investigation to assess the effect of STP on lifestyle modifications of patients with myocardial infarction.

☐ There is a need for intensive research in the area of adult's knowledge, preparedness and their physical activity, diet habits, smoking and stress which have impact on myocardial infraction

☐ The present study may motivate other investigators to conduct further studies.

12 - RECOMMENDATIONS

1) A similar study can be replicated on a sample with different demographic characteristic. An experimental study may be conducted using a larger population of the community.

2) Lifestyle modifications of patients with myocardial infarction Lifestyle modification education

should be given periodically to enhance the level of knowledge among patients with myocardial infarction.

3) A comparative study can be conducted to identify the differences in knowledge and practice behavior among patients with myocardial infarction in the rural and urban settings.

4) A study can be conducted among staff nurses to assess their knowledge and attitude of lifestyle modifications regarding myocardial infarction.

5) An observantstudy can be conducted to assess the practices of life style modification regarding myocardial infarction

13 - LIMITATIONS

The study was limited only in assessing the knowledge and not the practice due to time constraints. Because of the short duration of the study follow up assessment and observation could not be done

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