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*A healthy lifestyle not only changes your body, but it also
changes your mind, attitude and mood*

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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 op department in MLB, Hospital, and Jhansi.

Objective: The objectives of the study is to assess the knowledge regarding lifestyle modifications. To evaluate the effectiveness of structured teaching programme on lifestyle modifications of patients with myocardial infarction and to associate the post-test knowledge of lifestyle modifications of patients with myocardial infarction with selected demographical variables.

Materials and Methods: The Pre experimental one group pretest and posttest design was used. A total 60 samples were selected by using simple random sampling technique. The data were collected Semi Structural questionnaire, before and after structured teaching programme regarding lifestyle modifications like habits, diet, exercise, medications, follow-up care.

Results: The results of post-intervention showed significant improvement in ($P < 0.05$) knowledge score. The percentage differences between pre-test and post-test score was analyzed using proportion with 95% Confidence interval which showed the effectiveness of structured teaching.

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 this study helps to improves their knowledge level on lifestyle modifications

of patients with myocardial infarction and thereby ensuring the safety of the patients, minimizing the risk of further complications of myocardial infarction.

Key words:

Myocardial Infarction, Lifestyle Modifications, STP

1. Introduction:

Globally non-communicable disease has become a major epidemic in the world. This is due to a rapid transition in lifestyle leading reduced physical activity, changes in diets and increased use of tobacco. This trend is present in all the categories of the societies—rich and poor in developed and developing countries heart disease is the leading cause of death in most of the developed and developing countries coronary heart disease was the underlying causes of nearly 26% of death of the patients. In India, heart disease is still the leading cause of death, 1.7 million Indians died in 2006 due to heart diseases and stroke. 31.6 percent of people died of the circulatory system that includes heart disease and stroke. 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, only for spouse and wider family. These events threaten the patient's stability, security, adaptability, beliefs and assumption towards his normal healthy life.

2. Need for the Study:

Current guidelines from the American Heart Association (AHA) and the American Association of Cardiovascular and Pulmonary Rehabilitation emphasize the importance of cardiac rehabilitation which reduces morbidity and mortality, improves clinical outcomes, enhances psychological recovery, and decreases the risk for secondary cardiac events. In MLB, Hospital 600 cases are attending the outpatient department per day. As per records per month 10500 male cases, 9000 female cases are reported to the cardiology department with myocardial infarction. So this study has been approached to reduce the number of cases and prevent complications in myocardial infarction patients. Cardiac rehabilitation and lifestyle modifications are the essential components of recovery. Care after a heart attack, focuses on cardiovascular risk reduction, promoting healthy behaviors, reducing death and disability, and promoting an active lifestyle for heart attack survivors. Lifestyle practices and behaviors can have positive or negative effects on health. The lifestyle risk factors have gained increased attention because it is known that many of the leading causes of death are related to lifestyle patterns or habits.

3. Problem Statement:

A study to assess the effectiveness of structured teaching program on lifestyle modifications of patients with myocardial infarction attending cardiology department in MLB Hospital, Jhansi.

3.1. Objectives:

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

3.2. Operational Definitions:

3.2.1. Assess:

It refers to the estimation of pretest knowledge regarding lifestyle modifications among myocardial infarction patients.

3.2.2. Effectiveness:

It means producing an intended result. In this study, it refers to determine the extent to which teaching programme has brought about the intended results and it is measured in terms of improvement in knowledge in post-test which is measured in terms of statistical measurements.

3.2.3. Structured Teaching Programme:

A teaching programme on lifestyle modifications includes diet, exercise, healthy living habits, rehabilitation measures for myocardial infarction. It was given by using power point presentation with laptop for a period of 45-50 minutes.

3.2.4. Lifestyle Modifications:

Education about modifiable risk factors changes the patient's attitude and health practice in relation to diet, physical exercise, smoking cessation, stress management and helps to prevent heart disease and to preserve life.

3.2.5. Myocardial Infarction:

Myocardial infarction is the abrupt cessation of blood and oxygen flow to the heart muscles due to sudden occlusion of a coronary artery.

3.2.6. Patients:

Here the patient is diagnosed as myocardial infarction or undergoing treatment for a health care problem. In this study, it refers to the person who is attending the Cardiology outpatient department diagnosed with myocardial infarction.

3.3. Assumption:

Myocardial infarction patients have some knowledge on life style modifications. Knowledge influences the attitude and practice regarding lifestyle modifications.

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

3.4. 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

3.5. Delimitations:

- ❖ The study is limited to the assessment of knowledge in correct response to the items provided in the knowledge questionnaire and structured teaching programme.
- ❖ Selection of samples are from the Cardiology outpatient department in MLB Hospital, Jhansi.
- ❖ The period of data collection is one month.

4. Research Approach:

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

4.1. Research Pre-Design:

-experimental one-group pre-test, and post-test design was used to test the effect of structured teaching programme on lifestyle modifications of myocardial infarction patients attending Cardiology Outpatient Department in MLB Hospital, Jhansi.

Table 3.1: Pre-experimental group

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

O2-O1=E

O1-Assessment of pretest knowledge regarding lifestyle modifications of patients with myocardial infarction.

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

O2-Assessment of post-test

Knowledge regarding lifestyle modifications of myocardial infarction on the 15th day in the pre-experimental group after intervention.

E - Effectiveness of structured teaching programme regarding lifestyle 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.

5. Study Population:

The population for this study consists of clients with history of myocardial infarction who are attending cardiology outpatient department in MLB Hospital, Jhansi.

Target population: Who are attending Cardiology OP department.

Accessible Population: Who are available during data collection and fulfill the inclusion criteria.

Study Settings: The study was conducted in the cardiology outpatient department in MLB Hospital, Jhansi.

Duration of the Study: 4 weeks from 02.01.18 to 27.01.18.

Sample: The sample consists of adults with myocardial infarction who are attending Cardiology outpatient department, and who fulfill the inclusion criteria were selected from MLB Hospital, Jhansi.

Sample Size: The sample size for this study is 60 Patients with myocardial infarction.

Sample Criteria:

1. Inclusion Criteria

Myocardial patients who are all

- ❖ Attending Cardiology Outpatient Department
- ❖ Able to speak and understand Tamil and English.
- ❖ 30 years of age on both gender
- ❖ Diagnosed with myocardial infarction at any time of their life
- ❖ Clients who are willing to participate in the study.

2. Exclusion Criteria:

The clients who are all

- ❖ Myocardial infarction with other complications
- ❖ Clients with sensory deprivation
- ❖ Clients who are all undergoing any other procedure

Sampling Technique: Simple random sampling technique was used. The samples meeting the sampling criteria were included in the study. There were 153 samples that met the criteria. Each sample name was written orders around. As per systematic random sampling 60/153 each 3rd samples from that 60 were selected for the study.**Research Variables:**

Independent variable: Structured teaching program

Dependent variable: Knowledge regarding lifestyle modifications of myocardial infarction patients

6. Findings and Interpretation:

Section-I: Deals with socio-demographic characteristics of the sample.

Table. 1: distribution of the demographic profile of the study participants (N=60)

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%
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.1 shows the demographical information of myocardial infarction clients who participated in the study. The demographic data of the samples is presented in relation to their personal characteristics such as age, sex, education, religion, work status, marital status.

Section-II: Pre-test percentage of knowledge score regarding Myocardial Infarction and its lifestyle modifications, knowledge in meaning, causes and risk factors, clinical manifestations, management, prevention and also overall scores in three level (Good, Fair, Poor) in the experimental group have been analyzed comparatively in frequency and percentage before intervention on 7th day. The data has also been analyzed in mean and mean scores in the experimental.

Table. 2: Each domain-wise pre-test percentage of knowledge on life style modification of patients with myocardial infarction

S.NO	Domains	No. of questions	Min score	Max score	Mean	SD	Knowledge score % 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. 2, shows that each domain wise pre-test percentage of knowledge on lifestyle modification of patients with Myocardial Infarction. They have maximum knowledge in risk factors and habits (46.75%) and minimum knowledge score in diet (32.86%).

Table. 3: Pre-test 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. 3 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 an adequate level of knowledge score.

6.1. Knowledge Score Interpretation:

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

Table. 4: Knowledge score interpretation

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

Section-III: Deals with knowledge level after the structure of teaching programme.

Table. 5: Each domain wise patient post-test percentage of knowledge score

S.No	Domains	No. of questions	Min score	Max	Knowledge score		
					Mean	SD	% of mean score
1	Risk factors and habits	4	0 - 4	3.27	.88	81.75%	
2	Diet	7	0 - 7	5.47	.91	78.14%	
3	Exercise	8	0 - 8	6.52	1.47	81.50%	
4	Medications	3	0 - 3	2.25	.75	75.00%	
5	Follow up care	3	0 - 3	2.40	.67	80.00%	
	Total	25	0 - 25	19.90	2.04	79.60%	

Table. 5 shows each domain-wise post-test percentage of knowledge on lifestyle modifications of patients with myocardial infarction attending the Cardiology Department in MLB Hospital, Jhansi. They have maximum knowledge in risk factors and habits (81.75%)

and minimum knowledge score in Medications (75.00%).

Table. 6: Post-test level of knowledge

Level of knowledge	No. of patients	%
Inadequate knowledge	0	0.0%
Moderate knowledge	13	21.7%
Adequate knowledge	47	78.3%
Total	60	100%

Table. 6 shows the patient's level of knowledge on lifestyle modification. In general none of intervention. The data has been analyzed in mean score and the significant difference between the pre-experimental groups in all five aspects of lifestyle modifications of patients with myocardial infarction and overall before and after STP intervention has been examined by statistical test.

Table. 7: Comparison of pre-test and post-test mean clinical parameters score of the study participants

S.No	Knowledgeon	Pretest		Posttest		Mean Difference	Student's paired t-test
		Mean	SD	Mean	SD		
1	Risk factorsand habits	1.87	1.36	3.27	.88	1.40	t=8.57 P=0.001 *** DF=59, Significant
2	Diet	2.30	1.84	5.47	.91	3.17	t=12.93 P=0.001 *** DF=59, Significant
3	Exercise	3.25	1.45	6.52	1.47	3.27	t=13.11 P=0.001 *** DF=59, Significant
4	Medications	1.15	.82	2.25	.75	1.10	t=7.63 P=0.001 *** DF=59, Significant
5	Follow up care	1.23	.83	2.40	.67	1.17	t=9.24 P=0.001 *** DF=59, Significant

* Significant at $P \leq 0.05$ ** highly significant at $P \leq 0.01$ *** very high significant at $P \leq 0.001$

Table.7 shows the comparison of pretest and posttest knowledge scores among MI patient's knowledge regarding Risk factors and habits, in the pre-test, patients have having 1.87 score whereas in post-test they are having 3.27score. The difference is 1.40. This difference is large and it is statistically significant difference. Knowledge regarding Diet, in the pre-test, patients are having 2.30 score whereas in post-test they are having 5.47 score. The difference is 3.17. This difference is large and it is statistically and significantly different. Knowledge Regarding Exercise, in the pre-test, patients had 3.25 score whereas in post-test they had 6.52 score. The difference is 3.27. This difference is large and it is statistically significant. Knowledge regarding medications, in pre-test score, is 1.15 and post score is 2.25. The difference is 1.10. the difference is moderate and statistically significant. Knowledge regarding follow up care, pre-test score was 1.23 and the post-test is 2.40. The difference is 1.17. In this the difference is moderate and statistically significant. The statistical significance was calculated by using the student's paired test.

Table. 8: Comparison of pre-test and post-test level of knowledge score

Level of knowledge	Pretest		Posttest		Generalized McNamara's test
	n	%	n	%	
Inadequate knowledge	48	80.0%	0	0.0%	2=54.70 P=0.001***(S)
Moderate knowledge	12	20.0%	13	21.7%	
Adequate knowledge	0	0.0%	47	78.3%	
Total	60	100.0%	60	100.0%	

significant at p<0.05 level ** highly significant at P <0.001 * Very significant at P<0.001*

Table. 8 shows the pretest and post-test level of knowledge among MI patients before STP, 80.0% of the patients are having inadequate level of knowledge score, 20.0% of them are having moderate level of knowledge score and none of them are having adequate level of knowledge score. After STP, none of the patients are having inadequate level of knowledge score, 21.7% of them are having moderate level of knowledge score and 78.3% of them are having adequate level of knowledge score. Level of knowledge gain between pre-test and posttest was calculated using generalized Mc. Nemar's Chi-square test.

Table. 9: Effectiveness and generalization of structured teaching programme

	Max score	Mean score	Mean Difference of knowledge gain score with 95% Confidence interval	Percentage Difference of knowledge gain score with 95% Confidence interval
Pre-test	25	9.80	10.10	40.40%
Post-test	25	19.90	(9.11 – 11.08)	(36.44% –44.32%)

Table.9 shows the effectiveness of structured teaching programme among parents pretest on care of preterm babies. The above table depicts the comparison of overall knowledge score between pretest and posttest. On average, in posttest clients gained 39.93% of knowledge score after having a structured teaching programme on knowledge regarding life style modifications of patients with myocardial infarction. Differences and generalization of knowledge gain score between pretest and posttest score was calculated using the mean difference with 95% CI and proportion with 95% CI. This 39.93% knowledge gain shows the effectiveness of structured teaching programme on lifestyle modifications of patient with myocardial infarction.

Table. 10: Effectiveness of structured teaching programme

S.No	Domains	Posttest knowledge	Pretest knowledge	% of knowledge gain
1	Risk factors and habits	81.75%	46.75%	35.00%
2	Diet	78.14%	32.86%	45.28%
3	Exercise	81.50%	40.63 %	40.87%
4	Medications	75.00%	38.33%	36.67%
5	Follow up	80.00%	41.00%	39.00%
	Overall	79.60%	39.20%	40.40%

Table.10 shows each domain wise percentage of gain. Overall they gained 40.40 % of knowledge score when comparing pre-test and post test after having STP. This shows the effectiveness of STP on knowledge regarding lifestyle modifications of patients with myocardial infarction.

7. Major findings of the study:

7.1. Based on knowledge level before structured teaching programme:

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.

7.2. 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) overall 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.

8. Recommendation:

- (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 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 observational study can be conducted to assess the practices of lifestyle modification regarding myocardial infarction.

9. Conclusion:

The literature says that an adequate level of knowledge in lifestyle modifications of myocardial infarction patients will help 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.

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