

## **“A Study to Evaluate the Effectiveness of Patients Education on Lifestyle Modification among Post Myocardial Infarction Patients at Prakriya Hospital Bangalore Karnataka”**

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### **Objectives of study;**

- 1) To assess the knowledge regarding patients education on lifestyle modification among post myocardial infarction at Prakriya Hospital Bangalore.
- 2) To evaluate the effectiveness of patients education on lifestyle modification among post myocardial infarction at Prakriya Hospital Bangalore
- 3) To find the association between pre test level of knowledge with selected socio-demographic variables.

The healthy adherer effect is a phenomenon in which patients who adhere to medical therapies tend to pursue health-seeking behaviors. Although the healthy adherer effect is supposed to affect health outcomes in patients with coronary artery disease, evaluation of its presence and extent is not easy. This study aimed to assess the relationship between medication adherence and lifestyle modifications and health-related quality of life among post-acute myocardial infarction (AMI) patients.

**Keywords-**Effectiveness, Education, Lifestyle, Modification, Myocardial Infarction, Patients

Acute myocardial infarction (MI) or heart attack refers to the ischemic necrosis of cardiac myocytes which occurs due to the lack or reduction of blood supply.<sup>1</sup> This disease is life threatening and influences the physical, psychological and social aspects of the patient's life. The prevalence of this disease is increasing throughout the world.<sup>2</sup> Cardiovascular diseases are known to be the first mortality cause in Iran and about 138000 deaths occur every year due to this disease (about 40% of the total mortality), half of which being due to MI.<sup>3</sup>

The incidence of MI in various parts of the world is being affected by demographic characteristics and lifestyle of the individuals.<sup>4</sup> It is supposed to be a life threatening disease by patients and they attribute it to their lifestyle.<sup>5</sup> Behavioral risk factors are often related and closer adherence to a healthier lifestyle might reduce the risk of coronary heart disease.<sup>6</sup> Several studies indicate that lifestyle change not only prevents but also controls the progress of cardiac diseases and reduces the occurrence of cardiac events in the patients with cardiovascular diseases.<sup>7,8</sup> Lifestyle modification to prevent the incidence of coronary vascular disorders is among the basic programs of WHO.<sup>9</sup> Choosing a healthy lifestyle along with a balanced diet reduce the rate of MI and the need to surgery and angioplasty.<sup>10</sup>

In spite of the availability of widespread studies regarding the importance of improving the risk factors and changing the lifestyle after MI, about half of the patients experience some complications like further MI three years after it<sup>11</sup> because changing the lifestyle is difficult. One of the problems of patients with acute MI is making change in their lifestyle during a short period of time. Moreover, patients are not provided with sufficient information in this regard during their hospitalization period<sup>12</sup> or forget the received information gradually and by time lapse.<sup>13</sup>

Evidence shows that no scientific and professional source is available in the Iranian society to help such patients and also their lifestyle is not sufficiently observed by physicians.<sup>12,14</sup> Experimental studies also have not suggested any proper solution to make behavioral change among patients with MI. Therefore, it seems that a program manageable by nurses (nurse-leader) along with a follow-up using phone could be a successful and practical model.<sup>5</sup> Using nursing models could be one of the important and basic steps to reach this objective. "Continuous care model" is one of the models planned by Ahmadi for patients suffering from chronic coronary vascular disease.<sup>15</sup> The aim was to establish and maintain a dynamic, flexible, and continuous care relationship between the nurse and the patient for improving the lifestyle of the patients. The continuous care model provides such conditions but this model has not been used for lifestyle change thus far. In view of the importance of improvement in lifestyle of MI patients, this study aimed to investigate the effects of applying a continuous care model on the lifestyle of patients with MI.

### Organization of findings:

The data collected from the individual Patients of Prakriya Hospital Bangalore has been organized and presented under the following headings;

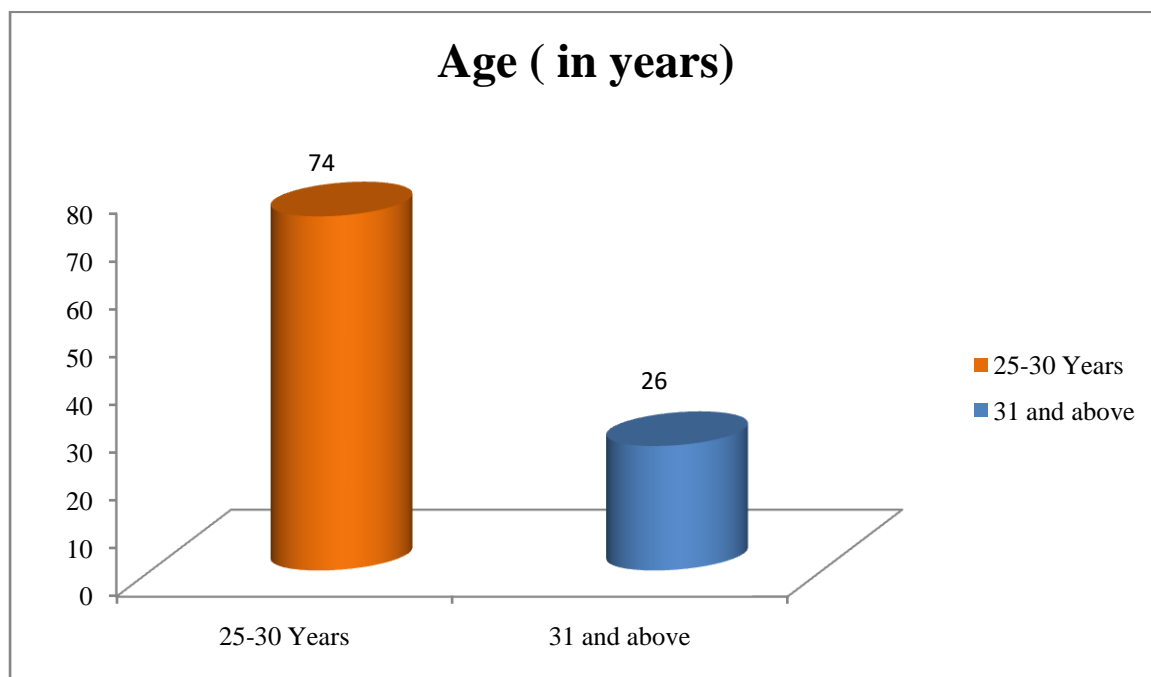
### Section I: Frequency and percentage distribution of individual Patients of Prakriya Hospital Bangalore according to socio- demographic variables.

This section deals with the data pertaining to the base line proforma of individual Patients of Prakriya Hospital Bangalore. The data analyzed by using descriptive statistics and presented in terms of frequency and percentage.

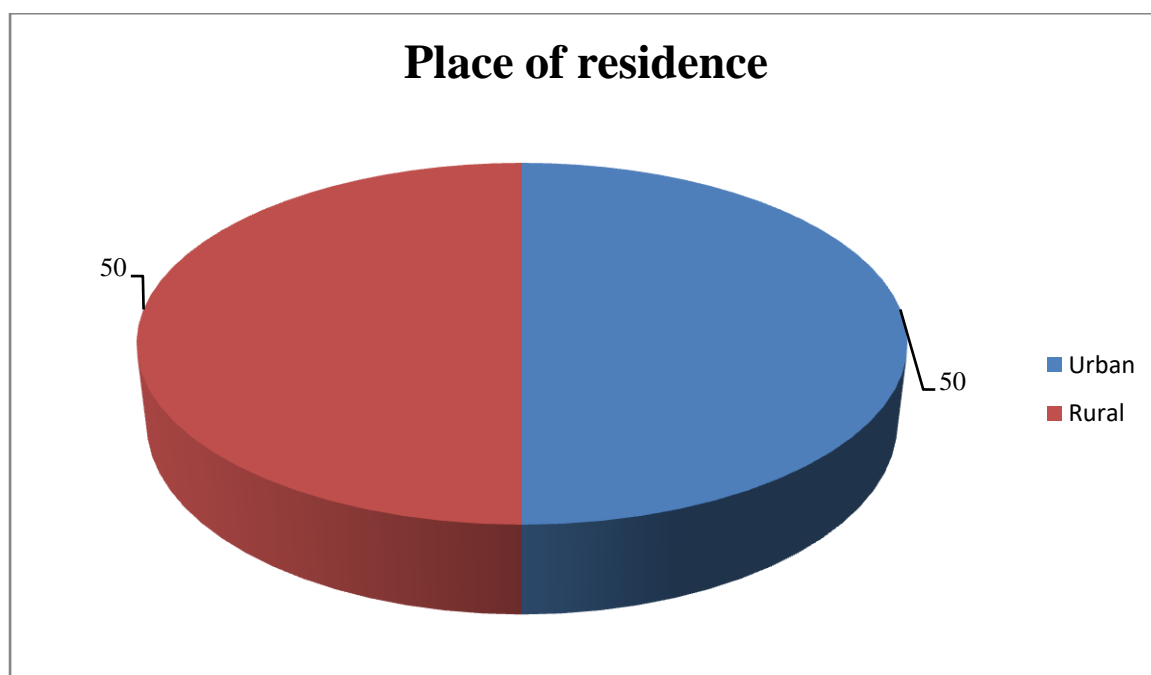
**Table 3: Frequency and percentage distribution of the according to individual Patients of Prakriya Hospital Bangalore age, gender, place of residence, exposure to mass media, Do you know lifestyle modification of post myocardial infarction. n= 50**

Sl. No	Variable	Frequency ( f )	Percentage (%)
1.	Age ( in years)		
	a. 25-30 Years	37	74
	b. 31 and above	13	26
2.	Place of residence		
	a. Urban	25	50
	b. Rural	25	50
3.	Exposure to mass media		

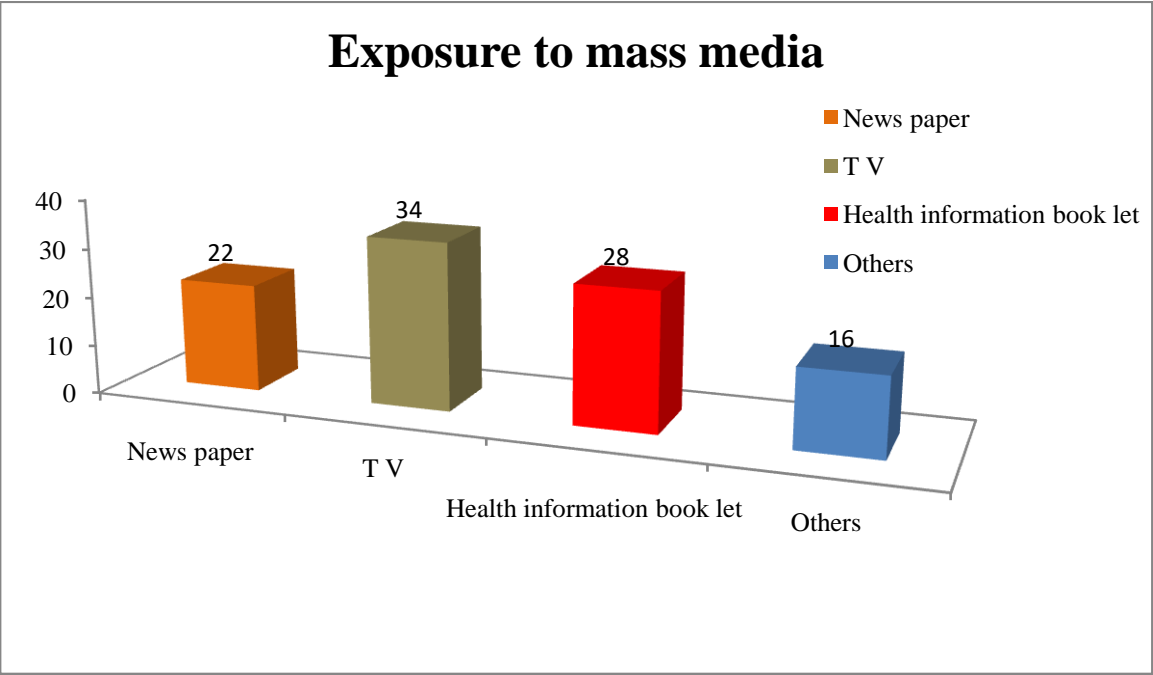
	<b>a.</b>	News paper	11	22
	<b>b.</b>	T V	17	34
	<b>c.</b>	Health information book let	14	28
	<b>d.</b>	Others	8	16
<b>4.</b>	<b>Do you know lifestyle modification of post myocardial infarction</b>			
	<b>a.</b>	Yes	24	48
	<b>b.</b>	No	26	52



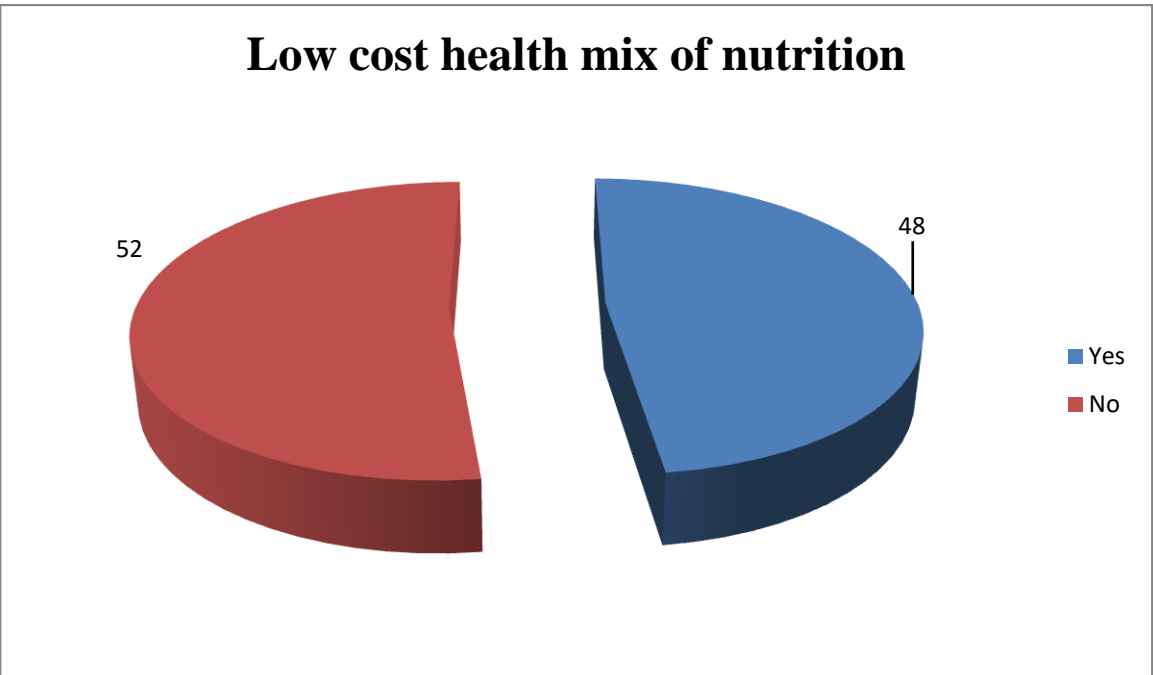
**Figure 3: Distribution of patients of post Myocardial Infarction according to age**



**Figure 4: Distribution of patients of post Myocardial Infarction according to Place of residence**



**Figure 5: Distribution of patients of post Myocardial Infarction accordingly exposure to mass media.**



**Figure 6: Distribution of patients of post Myocardial Infarction according to Do you know lifestyle modification of post myocardial infarction.**

➤ Table 3 and figure 3 shows majority of the patients of post Myocardial Infarction 37(74%) were in between age group of 25-30 Years, followed by 13(26%) were in the age group of 31 and above years age group patients of post Myocardial Infarction.

➤ Table 3 and figure 4 shows that, out of 50 patients of post Myocardial Infarction were belong to Urban 25(50%) and Rural around 25(50%) patients of post Myocardial Infarction were from the group of Place of residence.

➤ Table 3 and fig 5 shows that exposure to mass media of the samples or patients of post Myocardial Infarction was categorized in to 4 groups among them 17 (34%) were belongs to exposed to TV, News Paper around 11(22%), Health Information Booklet 14 (28%) and others 8 (16%).

➤ Table 3 and figure 6 depicts that do you know lifestyle of post myocardial infarction that, out of 50 patients of post Myocardial Infarction, majority were belongs to exposed to mass media like news paper 17(34%), T.V 11(22%), health information booklet 14(28%), followed by others 8(16%).

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<b>4.</b>	<b>Exposure to mass media</b>		
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	g. Health information book let	14	28
	h. Others	8	16
<b>5.</b>	<b>Do you know lifestyle modification of post myocardial infarction</b>		
	c. Yes	24	48
	d. No	26	52

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## Section II: Analysis of pre test and post test knowledge regarding myocardial infarction among patients of post Myocardial Infarction.

This section deals with the analysis and interpretation of the data to assess the pre test and post test knowledge regarding myocardial infarction among patients of post Myocardial Infarction. The data regarding pre test and post test knowledge score is presented in the table using frequency and percentage.

**Table: 4, Analysis of pre test and post test knowledge**  
Knowledge level

Levels	Pre-test		Post-test	
	Frequency	%	Frequency	%
Adequate (21-30)	--	--	44	88
Moderately adequate (11-20)	50	100	6	12
Inadequate (0-10)	--	--	--	--

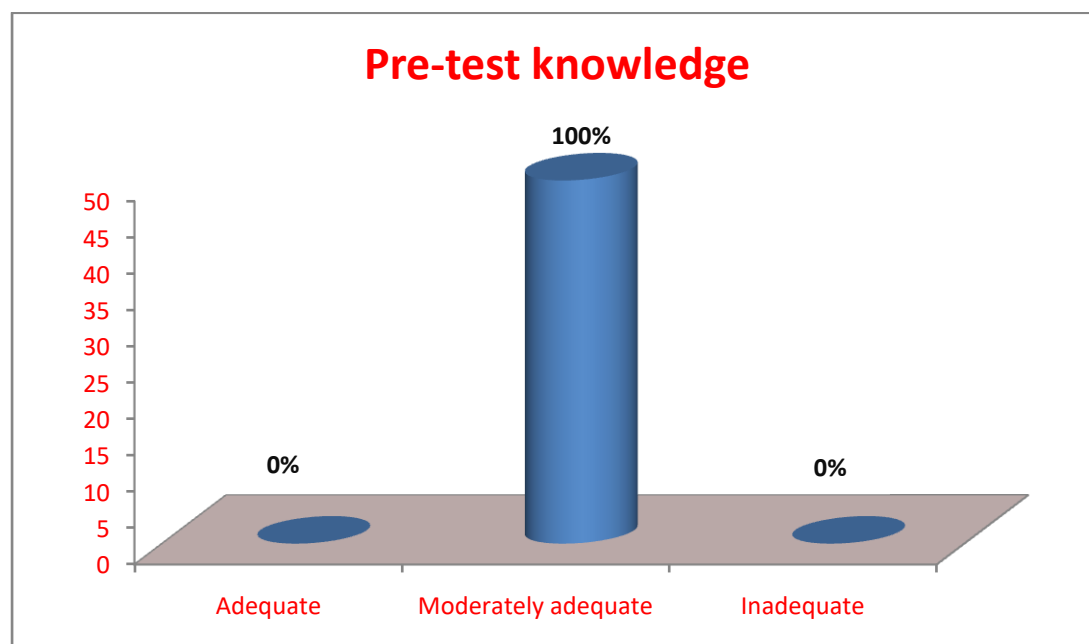


Figure 7; In the pre-test knowledge maximum of 100% myocardial infarction among patients of post Myocardial Infarction have moderately adequate knowledge.

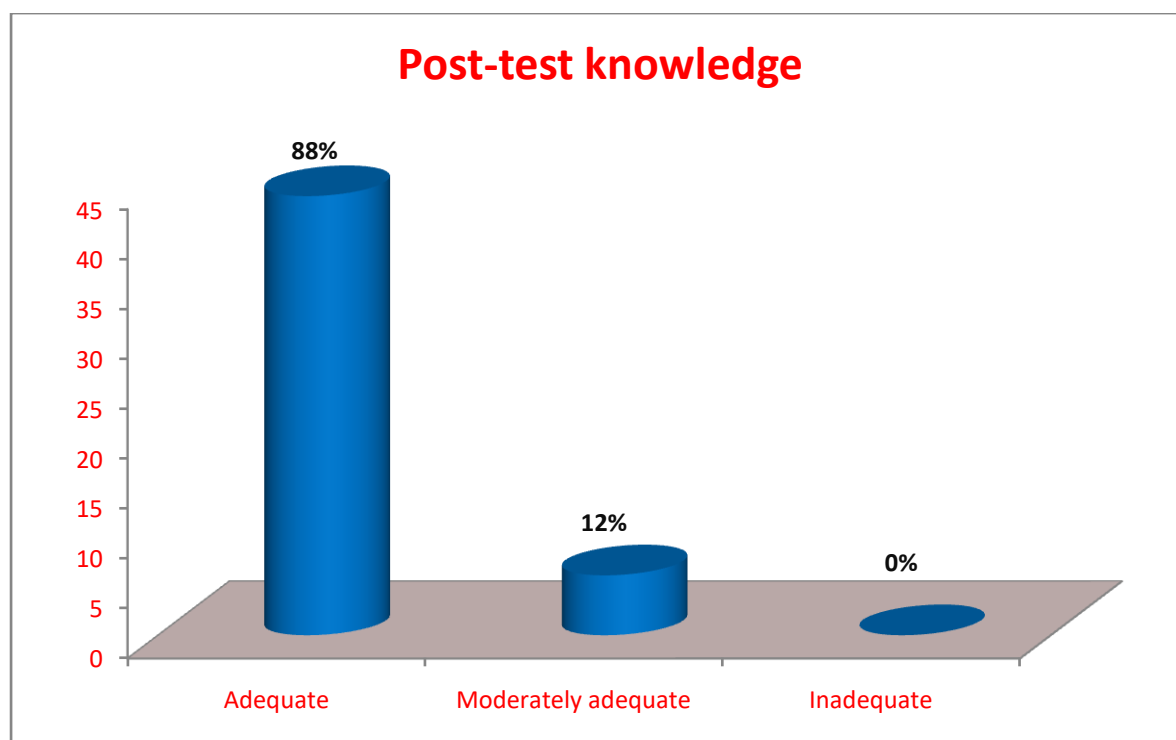


Figure 8; From the post-test knowledge 88% of the myocardial infarction among patients of post Myocardial Infarction have adequate knowledge and 12 % have moderately adequate knowledge.

### Section III: Effectiveness of Individualized Education on Lifestyle Modification Among Post Myocardial Infarction Patients Among Patients Admitted.

This section deals with the analysis and interpretation of the data to evaluate the effectiveness of effectiveness of individualized education on lifestyle modification among post myocardial infarction patients among patients admitted.

**Table 6: Range, mean, mean percentage and standard deviation of pre test and post test knowledge score of on Effectiveness of Individualized Education on Lifestyle Modification Among Post Myocardial Infarction Patients Among Patients Admitted. n=50**

Knowledge	Range	Mean	Mean %	SD
Pre test	12-19	15.92	31.84	1.66
Post test	20-27	22.24	44.48	1.64

The data described in the table 6, reveals that the individual patients knowledge score was higher in the post test (range 20-27) than that in the pre test (range 12-19). It is also evident that mean post test knowledge score (22.24) was higher than that of pre test (15.92).

### **Significance of mean difference between pre test and post test knowledge scores of effectiveness of individualized education on lifestyle modification among post myocardial infarction patients among patients admitted.**

#### **Testing of hypothesis**

To find out the significance of mean difference between the pre test and the post test knowledge scores of respondents regarding effectiveness of individualized education on lifestyle modification among post myocardial infarction patients among patients admitted, the following hypothesis was stated;

**H<sub>1</sub>**- There is significant difference between the pre test and the post test knowledge scores on knowledge regarding effectiveness of individualized education on lifestyle modification among post myocardial infarction patients among patients admitted.

The above stated hypothesis was tested by using paired 't' test.

#### Knowledge

##### Pre-test

Mean score =15.9

SD score =1.66

##### Post-test

Mean score=22.24

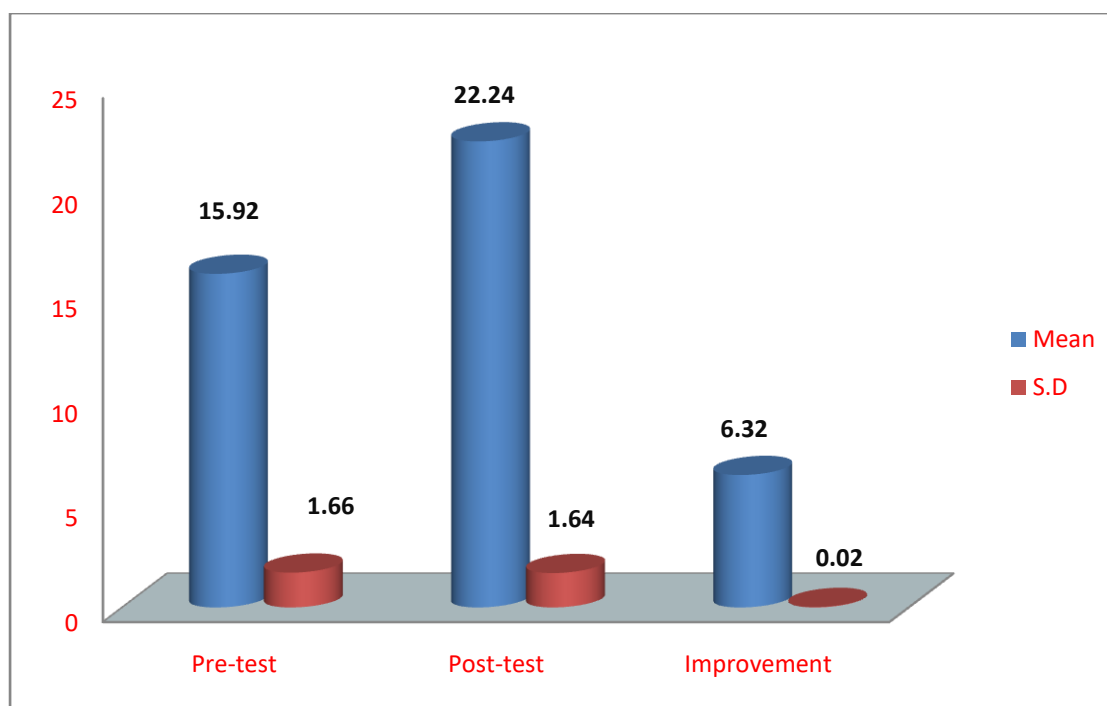
SD score =1.64

**Table 7:Mean difference between pre test and post test knowledge scores of effectiveness of individualized education on lifestyle modification among post myocardial infarction patients among patients admitted.**

Parameter	Mean	S.D	Range	Mean%	t -value	Result
Pre-test	15.92	1.66	12-19	31.84	20.68	HS P<0.001 HS=Highly significant
Post-test	22.24	1.64	20-27	44.48		
Improvement	6.32	0.02				

The Table 7; shows that, mean score has increased in the post test. The mean in the post test was 22.24 and the mean in the pre test was 15.92. Similarly the variation was also increased in the post test compared to pre test. SD in the post test is 1.64 and in the pre test was 1.66. The mean is improved by 6.32 and variation was increased by 0.02. The calculated value of 't' is 20.68, which is highly significant at 0.001 level. This education given to the patients is effective.





**Figure 10:** Mean difference between pre test and post test knowledge scores of patients admitted.

#### Section IV: Association between pre test knowledge score with selected socio-demographic variables.

This section deals with the findings of the association between pre test knowledge score and selected socio-demographic variables. The mean of the pre test knowledge score was calculated and found to be **15.92**.

The number of patients admitted with myocardial infarction, who were above and below the median were identified and grouped according to their socio-demographic variables like age, gender, place of residence, source of information and Do you know myocardial infarction.

To test the association between the knowledge score and socio-demographic variables, the following hypothesis was formulated.

**H<sub>2</sub>**:- There is significant association between pre test level of knowledge and selected socio-demographic variables of individual patients admitted with myocardial infarction.

**Table 8:** Association between pre test knowledge score with selected socio-demographic variables. n= 50

Sl. No	Variable	Below median(< M)	Above median(>M)	d f	Chi- square value( $X^2$ )	P-value	Result
1.	Age ( in years)			1	3.82	0.05	SIG
	a. 25-30 Years	13	24				
	b. 31	10	5				

	and above						
<b>3.</b>	<b>Place of residence</b>			1	<b>3.92</b>	<b>0.048</b>	<b>SIG</b>
	a. Urban	8	17				
	b. Rural	17	8				
<b>4.</b>	<b>Exposure to mass media</b>			3	<b>9.92 9.92</b>	<b>0.019</b>	<b>SIG</b>
	a. News paper	5	12				
	b. T V	8	3				
	c. Health information book let	6	8				
	d. Others	6	2				
<b>5.</b>	<b>Do you know myocardial infarction</b>			1	<b>3.89 3.89</b>	<b>0.049</b>	<b>SIG</b>
	a. Yes	10	14				
	b. No	18	7				

S= Significant, NS= Not significant

The findings in the Table 8, reveal that, there was no significant association between pre test knowledge scores with selected socio-demographic variable such as place of residence ( $X^2 = 0.33$ ) at the level of 0.001 level. But there was significant association between pre test knowledge scores with selected socio-demographic variable such as age (3.82), place of residence (3.92) and exposure to mass media (9.92), do you know myocardial infarction (3.89) at 0.001 level of significance.

### Hypothesis:-

**H<sub>1</sub>**- There is significant difference between the pre test and the post test knowledge scores on knowledge regarding effectiveness of individualized education on lifestyle modification among post myocardial infarction patients among patients admitted.

**H<sub>2</sub>**:- There is significant association between pre test level of knowledge and selected socio-demographic variables of individual patients admitted with myocardial infarction.

### **Variables :-**

**Independent variable-** education regarding myocardial infarction

**Dependent variable-** Knowledge score regarding myocardial infarction.

### **The following tool was used to collect the data**

**Tool I:** Self administered knowledge questionnaire was prepared and used to assess the knowledge regarding post myocardial infarction among patients of post myocardial infarction consisted of two parts:

**Part I:** Socio demographic variables.

**Part II:** Self administered knowledge questionnaire.

A self administered knowledge questionnaire having 30 items was used to assess the knowledge of respondents regarding post myocardial infarction life style. The tool was validated by seven experts, pre testing was done by split half technique, which measures the co-efficient of internal consistency. The reliability of knowledge items was found to be  $r=1$ , which indicated that the tool was reliable.

Pilot study was conducted on five patients admitted after myocardial infarction, who met the inclusive criteria to confirm the feasibility and practicability. No modifications were found to be necessary. The data obtained was analyzed using descriptive and inferential statistics; data was presented using tables and diagrams, based on the objectives of the study.

Knowledge score was analyzed using Karl Pearson's correlation Coefficient. Association between knowledge score of respondents regarding post myocardial infarction life style with selected socio-demographic variables were analyzed using chi-square test.

### **Findings of the study;**

#### **Section I: Distribution of respondents according to socio- demographic variables.**

Table 3 and figure 3 shows majority of the patients with myocardial infarction 37(74%) were in between age group of 25-30 Years, followed by 13(26%) were in the age group of 31 and above years age group patients admitted.

Table 3 and figure 4 shows that, out of 50 patients were belong to Urban 25(50%) and Rural around 25(50%) patients admitted with myocardial infarction were from the group of Place of residence.

Table 3 and fig 5 shows that exposure to mass media of the samples or patients was categorized in to 4 groups among them 17 (34%) were belongs to exposed to TV, News Paper around 11(22%), health education 14 (28%) and others 8 (16%).

Table 3 and figure 6 depicts that do you know post myocardial infarction lifestyle that, out of 50 patients, majority were belongs to exposed to mass media like news paper 17(34%), T.V 11(22%), health education 14(28%), followed by others 8(16%).

#### **Section II: Analysis of pre test and post test knowledge regarding lifestyle after myocardial infarction among patients admitted with myocardial infarction.**

In the pre-test majority 100% of the patients admitted with myocardial infarction had moderately adequate knowledge regarding lifestyle after myocardial infarction. But in the post-test knowledge 88% patients had adequate knowledge, 12% had moderately adequate knowledge regarding lifestyle after myocardial infarction. The data reveals that the

patients knowledge score was higher in the post test (range 20-27) than that in the pre test (range 12-19). It is also evident that mean post test knowledge score (22.24) was higher than that of pre test (15.92). The data gives Max. score, Mean, SD, Mean difference, t-value and result of the pre & post test of the present study. With respect to lifestyle after myocardial infarction.

### **Section III: Effectiveness of health education on knowledge regarding Individualized Education on Lifestyle Modification among Post Myocardial Infarction Patients.**

The data reveals that the admitted patients knowledge score was higher in the post test (range 20-27) than that in the pre test (range 12-19). It is also evident that mean post test knowledge score (22.24) was higher than that of pre test (15.92), there mean score has increased in the post test. The mean in the post test was 22.24 and the mean in the pre test was 15.92. Similarly the variation was also increased in the post test compared to pre test. The mean difference between pre test and post test knowledge score was a true difference and not a chance difference. SD in the post test is 1.64 and in the pre test was 1.66. The mean is improved by 6.32 and variation was increased by 0.02. The calculated value of 't' is 20.68 is highly significantly at 0.001 level. This indicates the informational booklet was significantly effective in increasing the knowledge of patients admitted with myocardial infarction.

### **Section IV: Association between pre test knowledge score with selected socio-demographic variables.**

The findings of the study reveal that, there was no significant association between pre test knowledge scores with selected socio-demographic variable such as place of resident ( $X^2 = 0.33$ ) at the level of 0.001 level. But there was significant association between pre test knowledge scores with selected socio-demographic variable such as age (3.82), place of resident (0.33), and do you know post myocardial infarction life style (3.89) at 0.001 level of significance.

### **Interpretation and conclusion**

The overall findings of the study shown that patients were having inadequate knowledge regarding on lifestyle modification of post myocardial infarction patients. The gain in mean knowledge score after administration of health education is statistically significant at 0.001 level. It is proved that health education is an effective method in improving the knowledge of patients admitted with myocardial infarction. Educational authorities must provide effective education and proper encouragement for the same.

Health education prepared by the investigator for the study can also be used as a reference for teaching other personnel. The present study in short gave the researcher a new experience, a chance to widen the knowledge and venue to work with patients admitted with myocardial infarction have contributed to the fruitful completion of the study.

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