International Journal of Science and Research (IJSR)
ISSN: 2319-7064
Impact Factor 2025: 7.089

A Descriptive Study to Assess the Knowledge Regarding the Risk Factors and Prevention of Myocardial Infarction Among Adults in Selected Rural Area at Rajapalayam, Virudhanagar, Tamilnadu

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Abstract: ***Background and Objectives: Myocardial Infarction is one of the important leading heart disease. Understanding the risk factors of it may prevent the heart diseases among community. The researcher aims to assess the knowledge regarding the risks factors and prevention of Myocardial infarction. Objectives: The objectives are as follows, 1) To assess the level of Knowledge regarding Myocardial Infarction among the adults. 2) To find association between level of knowledge with their selected socio demographic variables. Methods: In this study the Quantitative approach was used, the descriptive design was used, the study will be conducted in Selected rural areas of Rajapalayam, the selected sample was Adults (21-60 yrs) residing in Rajapalayam, Virudhanagar. Sample consists of 100 Adults. Result: In this study the the maximum number of adults 82 had average knowledge (82%), while adults 3 had poor knowledge. Conclusion: In present study; the out of 100 samples have knowledge about Myocardial Infraction among adults, 82 subjects had average knowledge, 15 subjects had good knowledge and 3 subjects had poor knowledge. The study focuses on need to create awareness regarding cardiovascular diseases and its prevention.***

Keywords: Myocardial Infarction, Heart Disease Prevention, Knowledge Assessment, Cardiovascular Awareness, Risk Factors of Heart Disease.

1. Introduction

The World Health Organization (WHO) defines myocardial infarction (MI), commonly known as a heart attack, as the irreversible death (necrosis) of heart muscle cells caused by a significant and sustained lack of blood supply and oxygen (ischemia).

A myocardial infarction (MI), commonly known as a heart attack, occurs when blood flow decreases or stops in one of the coronary arteries of the heart, causing infarction (tissue death) to the muscle. The most common symptom is retrosternal chest pain or discomfort that classically radiates to the left shoulder, arm, or jaw. The pain may occasionally feel like heartburn. This is the dangerous type of acute coronary syndrome. Other names for myocardial infarction are acute myocardial infarction and heart attack. Other symptoms may include shortness of breath, nausea, feeling faint, a cold sweat, feeling tired, and decreased level of consciousness. About 30% of people have atypical symptoms. Women more often present without chest pain and instead have neck pain, arm pain or feel tired. Among those over 75 years old, about 5% have had an MI with little or no history of symptoms. An MI may cause heart failure, an irregular heartbeat, cardiogenic shock or cardiac arrest. Most MIs occur due to coronary artery disease. Risk factors include high blood pressure, smoking, diabetes, lack of exercise, obesity, high blood cholesterol, poor diet, and excessive alcohol intake.

The complete blockage of a coronary artery caused by a rupture of an atherosclerotic plaque is usually the underlying mechanism of an MI. MIs are less commonly caused by coronary artery spasms, which may be due to cocaine, significant emotional stress (often known as Takotsubo syndrome or broken heart syndrome) and extreme cold, among others. Many tests are helpful with diagnosis, including electrocardiograms (ECGs), blood tests and coronaryangiography. An ECG, which is a recording of the heart's electrical activity, may confirm an ST elevation MI (STEMI), if ST elevation is present. Commonly used blood tests include troponin and less often creatine kinase MB. Treatment of an MI is time-critical. Aspirin is an appropriate immediate treatment for a suspected MI.

Nitroglycerin or opioids may be used to help with chest pain; however, they do not improve overall outcomes. Supplemental oxygen is recommended in those with low oxygen levels or shortness of breath. In a STEMI, treatments attempt to restore blood flow to the heart and include percutaneous coronary intervention (PCI), where the arteries are pushed open and may be stented, or thrombolysis, where the blockage is removed using medications. People who have a non-ST elevation myocardial infarction (NSTEMI) are often managed with the blood thinner heparin, with the additional use of PCI in those at high risk. In people with blockages of multiple coronary arteries and diabetes, coronary artery bypass surgery (CABG) may be recommended rather than angioplasty. After an MI, lifestyle modifications, along with long-term treatment with aspirin, beta blockers and statins, are typically recommended. Worldwide, about 15.9 million myocardial infarctions occurred in 2015. More than 3 million people had an ST elevation MI, and more than 4 million had an NSTEMI. STEMIs occur about twice as often in men as women. About

one million people have an MI each year in the United States. In the developed world, the risk of death in those who have had a STEMI is about 10%. Rates of MI for a given age have decreased globally between 1990 and 2010. In 2011, an MI was one of the top five most expensive conditions during inpatient hospitalizations in the US, with a cost of about $11.5 billion for 612,000 hospital stays.

2. Methods

A Quantitative, descriptive survey approach was adopted for this study. Non experimental, descriptive research design was selected for this study. The main study was conducted among adults residing in selected area at Thiruvalluvar Nagar near Health camp area, Rajapalayam, Virudhanagar. In the present study the, population comprised of adults residing at selected areas of Rajapalayam, Virudhanagar District. The sample size in this study is 100 adults residing near primary health camp area in Thiruvalluvar nagar, Rajapalayam. The Non - probability, purposive sampling technique was used to select samples for the present study

3. Results

Section I- Description and findings related to selected socio demographic variables of the subjects residing in selected rural area at Rajapalayam,

Section II-Analysis and interpretation of knowledge level regarding the risk factors and prevention of Myocardial Infraction among adults.

Table 1 (n=100)

S. No	Demographic Variables	Frequency (f)	Percentage
1	Age		
	• 21-30 years	35	35%
	• 31-40 years	29	29%
	• 41-50 years	24	24%
	• 51-60 years	12	12%
2	Gender		
	• Male	46	46%
	• Female	54	54%
3	Educational status		
	• Graduate	34	34%
	• Diploma	32	32%
	• Higher Secondary level	21	21%
	• Secondary level	8	8%
	• Illiterate	5	5%
4	Occupation		
	• Government sector	6	6%
	• Private sector	44	44%
	• Others	50	50%
5	Diet Pattern		
	• Vegetarian	10	10%
	• Non-vegetarian	5	5%
	• Mixed Diet	85	85%

Table 1: Frequency and percentage distribution of knowledge regarding Myocardial Infraction among the adults in selected urban area at Rajapalayam, Virudhanagar.

Table No. 1 Implies that

1) Majority of sample 25 (25%) belong to the age group of 21-30years and minimum 12(12%) belong to the age of 51-60 years.
2) Majority of sample 54 (54%) belong to the gender female and minimum 46 (46%) belong to the gender male.
3) Majority of sample 34 (34%) belong to Graduate and minimum 05 (05%) belong to Illiterate
4) Majority of sample 50 (50%) belong to other Occupation, 44 (44%) belongs to the private sector and minimum 06 (06%) belong to Government sector.
5) Majority of sample 85 (85%) belong to Mixed diet and minimum 10 (10%) belong to Veg diet.

Section II: Analysis and interpretation of knowledge regarding the risk factors and prevention of Myocardial Infarction among adults.

Table 2

Knowledge scores	Frequency	Percentage
Good (31-38)	15	15%
Average (21-30)	82	82%
Poor (11-20)	3	3%

Table 2: Frequency and Percentage (%) Assessment of Knowledge regarding the Risk Factors and Prevention of Myocardial Infraction among Adults

Table no.2 implies that, the maximum number of adults 82 had average knowledge (82%), while adults 3 had poor knowledge (3%) whereas 15 adults has good knowledge (15%).

Table 3: Calculated mean median mode standard deviation of knowledge score regarding myocardial infraction among adults.

Describing knowledge scores

Knowledge Questions	Mean	Median	Mode	Standard Deviation
Questionnaire	26.36	26	26	3.56

Table 3: Calculated mean median mode standard deviation of knowledge score regarding myocardial infraction among adults

Table no.3 indicate that, the data represented shows that after analysis of knowledge scores regarding myocardial infraction among adults, mean calculated was 26.36, median was 26, mode was 26 and SD was 3.56.

Table 4: Finding Related to An Association Between Knowledge Scores of Subjects with Their Selected Socio-Demographic Variable

S. no	Demographic variables	Df	Calculate value ($\chi 2$ cal)	Table value	Inference ($\chi 2$ tab)
1	Age	6	12.128	12.592	Accept
2	Gender	2	2.798	9.488	Accept
3	Educational status	8	22.78	16.919	Reject
4	Occupation	8	17.213	16.919	Reject
5	Diet Pattern	2	1.882	9.488	Accept

Table 4 : Association Between Knowledge Scores Of Subjects With Their Selected Socio-Demographic Variable.

Table no. 04 indicates that, there were five selected socio demographic variables. Such as age in years, gender, educational status, occupational status and diet. Out of those

five selected socio demographic variables three socio demographic variables showed the association of the knowledge and two variables show no any association of the knowledge regarding Myocardial Infraction among the adults.

Table revealed that there was an association between test of knowledge scores and selected socio-demographic variables age in years [$\chi 2$ cal = 12.128, $\chi 2$ tab = 12.592], Gender [$\chi 2$ cal= 2.798, $\chi 2$ tab = 9.488], Diet [$\chi 2$ cal = 1.488, $\chi 2$ tab = 9.488]. Hence RH1 was accepted.

This indicated that there was significant association between the knowledge assess with their selected socio demographic variables, age, gender and diet among the adults living in rural area at p 0.05 level. The calculated chi square values were higher than tabulated value at 0.05 level of significance.

Also there was no association between test of knowledge scores and selected socio-demographic variables Educational status [$\chi 2$ cal = 22.78, $\chi 2$ tab = 16.919], Occupation [$\chi 2$ cal = 17.213, χ 2 tab= 16.919]. Hence RH0 accepted.

This indicated that there was no significant association between the knowledge assess with their selected socio demographic variables Educational status and occupation among the adults living in rural area.

4. Nursing Implications

Nursing Education

The present study emphasizes on assessment of knowledge regarding Myocardial Infraction among adults at selected rural area at Rajapalayam, Virudhanagar. Knowledge assess among the adults at rural area, this encourages the health team member and guide the adults for healthy life. The nurse educators have the responsibility to update the knowledge of the nursing personnel regarding the Myocardial Infraction among the adults. Nurse educators should plan and conduct health education programmes for adults for preventive and promotive aspect of healthy heart. Nurse educator, Nursing schools, colleges and teachers should come forward and encourage the students to provide information on Myocardial Infraction with the help of audiovisual aids.

Nursing Administration

The Nursing administrator to provide quality care to the adults in the community could utilize the findings of the present study. While planning health care services for community at large, nurse administrator must keep in mind the population at risk.

- Professional interaction between the nurses and public will help to improve professional standards and creates better image in the community.
- Nursing administrator should organize educational programme for the adults in collaboration with the hospital and community staff.
- Teaching program can be given to hospital staff using various channels of communication regarding Myocardial Infraction risk, prevention and how they are interrelated and can be managed.
- Specialized teaching package in specific topic creates interest among public and serves as reference material.

Nursing Practice

The nurse plays an important role in health care delivery system. The community health nurses can conduct home visits to recognize knowledge of adults. The Physical examination should be carried out to the adults within family, to rule out the abnormalities. There should be the postings for the nursing students in a community for providing the nursing care to the family members, such as their Health assessments, Nursing procedures. Health checkup camps should be arranged for institutionalized adults. Workshops may be organized for adults to find out physical problems and their solutions. Yoga, aerobics and exercises classes can be advised for adults to keep them healthy. By knowing the type of social support that is beneficial to the adults in the nursing, it will be possible to promote the best form of social contacts that potentially improve the health of the adults. If it is family, nurses will encourage family to visit health professionals while feeling any abnormality according to the recommendation of this study. Nurses must be skilled in assessing the social support networks, beliefs, and preferences of adults to plan and implement the best nursing practices. This will also give health care facilities awareness of what they can do to reduce stress and depression in the adults. Such action as this can also reduce suicide ideation in the adults. Finally, for purposes of developing effective social interventions, it is important to learn more about how these phenomena are related to adult's life and what kind of prevention and treatment in adults.

5. Limitations

1) The study was limited to selected rural area at Rajapalayam, virudhanagar, due to limited time of data collection.
2) The study was limited to the adults between the age of 21-60 years.

6. Recommendations

Based on the findings of the present study, the following recommendations have been offered for further researchers:

1) A similar study can be undertaken on large scale.
2) Special guidance and counselling programs shall be initiated for the adults residing in rural area in Rajapalayam, Virudhanagar.
3) An experimental study can be undertaken among adult people residing in Rajapalayam by using questionnaire techniques to improve the knowledge.

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