Original Research Article

A Study to Assess the Knowledge of Risk Factors and Prevention about the Acute Myocardial Infarction among the Patient Admitted in Rural Tertiary Care Hospital, Karad

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ABSTRACT

Background: The prevention of acute myocardial infection (AMI) is a serious problem in today's world settings. Diseases can rarely be eliminated through early diagnosis or good treatment, but prevention can eliminate disease. Hence, it is need to reduce the incidence of AMI has been well documented; unfortunately there is a little evidence to suggest improvement. While some studies and researches are to be conducted for to improve the appropriate knowledge to prevent AMI and suggest that people's knowledge of preventive strategies is deficient.
Method: The study was descriptive cross sectional conducted at Krishna hospital, Karad. Simple random sampling was done to enrolled patient in study. Standard questionnaire was used to interview AMI subjects. Obtained results were recorded in files and analyzed in SPSS 20.
Result: Among 210 subjects, 144 (68.57%) were males while 66 (31.43%) were females. 49% of the patients were having poor level of knowledge. Income was significantly associated with AMI.
Keywords: AMI, risk factors, acute myocardial infarction, prevention.

INTRODUCTION

AMI remains cause of morbidity and mortality worldwide AMI occurs when a myocardial diminished blood supply to the heart, critical threshold and overwhelms myocardial repair mechanism designed to maintain operating function and homeostasis. An AMI known as heart attack, coronary occlusion or a "coronary" which is a life-threatening characterized by formation of localized necrotic within the Myocardium. [1]

All around the world people are mobilizing to bring better health conditions and health care so that they can have a fighting chance to raise families, grow communities, find meaningful work and contribute to society. But often people take health for granted and don't fully appreciates until it lost the meaning of health is misunderstood and misinterpreted by many people. This is because lack of complete scientific information and poor instructions. It is subjective and abstract. Health promotion and prevention enables individuals, families and communities to develop their full health potential.

Maintaining cardio health is important. Peoples with urban community have the higher risk of acute myocardial

infarction. Studies in the later have shown that incidence of AMI increases with length stay. [2]

Six primary risk factors have been identified with the development of atherosclerotic coronary artery disease and MI, hyperlipidemia, diabetes mellitus, hypertension, tobacco use, male gender, and family history of atherosclerotic coronary artery disease. [3]

There are so many people's are admitted due to AMI. Most of peoples are died due to heart failure or ischemic heart disease. Men have more risk attack of AMI. There for this case patient's part is very essential one and nurse's responsibility is giving health education to patients and his family members. Research indicates that care giving is associated with biomarkers of chronic stress. There the investigator recognized the significance of giving a planned teaching program for patients to get adequate knowledge to prevent AMI. [4]

Doctors and nurses play a major role in prevention of AMI, as they are one who early diagnose the disease and also advice the preventive methods of AMI. They should observe the problem and should encourage the patient to take all measurement to prevent AMI with planned teaching program. [5]

Aim & Objective:
To assess the knowledge about risk factors of an AMI and it's prevention among the patient.

Objectives of the Study:
1. To assess the level of knowledge of patient regarding AMI.
2. To find out the association of knowledge score of patient regarding risk factors of AMI and prevention of AMI among the patient with selected demographic variables.

MATERIALS & METHODS

The study was descriptive cross sectional conducted at Krishna hospital, Karad. Simple random sampling was done to enrolled patient in study. Samples were drawn from patients with both male and female in the age group of 15-70yrs, admitted in Krishna hospital, Karad. A structured knowledge questionnaire was used to assess the knowledge of AMI.

Description of the Tool:
Part-1
It consists of selected demographic variables such as age, sex, religion, education, occupation, monthly income.
Part-2
A structured knowledge questionnaire was prepared consisting of 25 times on knowledge regarding AMI. The items were developed to cover different areas such as knowledge related general information on AMI, signs and symptoms of AMI, management and prevention of AMI.

Procedure of Data Collection:
The data collection was carried out from 7th Feb 2016, on the day one, the purpose of the study was to assess the patient knowledge regarding risk factors of AMI and informed consent was taken before starting the study. The patient is from the age group between 15-70 yrs. were selected as sample for the research study. The study was conducted by administering structured knowledge questionnaire to the selected 210 patients.

Data analysis plan:
The data obtained were analyzed in terms of objectives of the study using descriptive and inferential statistics. The plan of data analysis was as follows.

- Organize the data in master sheet /computer.
- Personal data would be analyzed in terms of frequencies and percentages.
- The knowledge of patients regarding AMI would be analyzed in terms of mean and standard deviation as follows.

Statistical analysis:
Frequency distribution was used for demographic variables. Here whatever the mean and standard deviation got that is knowledge score according to the demographic variables. Here we go for Kruskal Wallis Test, ordinary ANOVA and Unpaired t-test. Also, here SPSS20.0, In-stat, MS-EXCEL etc. Software's used for analysis of data.

OBSERVATIONS & RESULTS

Table 1: Patient Demographic Data.

Study Variables	Frequency N=210	%
Age		
Up to 15 years	67	31.9
15 to 30 years	55	26.19
30 to 45 years	48	22.86
More than 45 years	40	19.05
Gender		
Male	144	68.57
Female	66	31.43
Religion		
Hindu	98	46.67
Muslim	90	42.85
Others	22	10.48
Education		
illiterate	45	31.9
school education	85	26.19
Higher secondary	54	22.86
Graduate & More	26	19.05
Occupation		
self employed	11	5.24
Service	80	38.1
Daily Wages	20	9.52
Farmers	99	47.14
Monthly Income		
Up toRs.5000	56	26.67
5000 to Rs.10000	87	41.43
more than Rs 10000	67	31.9
Marital Status		
Married	117	55.71
Unmarried	68	32.38
Widowed	25	11.9
Family Status		
Joint	68	32.38
Single	122	58.1
Separate	20	9.52
Habits		
Smoking	51	24.29
Alcohol	31	14.76
mixed	46	21.9
No	82	39.05
Disease		
Diabetes	36	17.14
Heart Disease	71	33.81
High B.P	103	49.05

Result: As shown in table.1 there were 69% (144) male participants and 31% (66) females. The mean of participants age 56.3, SD 26.62, minimum age 17 and maximum age was 72, of hypertension (49.05%), diabetes (17.14%), Heart Disease (33.81%) that consuming a highly deep fried food (80%), Also table.1 revealed that detailed distribution of demographic and some study variables.

As shown in figure 1, the mean knowledge score of patients recruited in this study was either low (49%) or medium score (30%), and low percentage was either high (13%) or very high (8%) knowledge score.
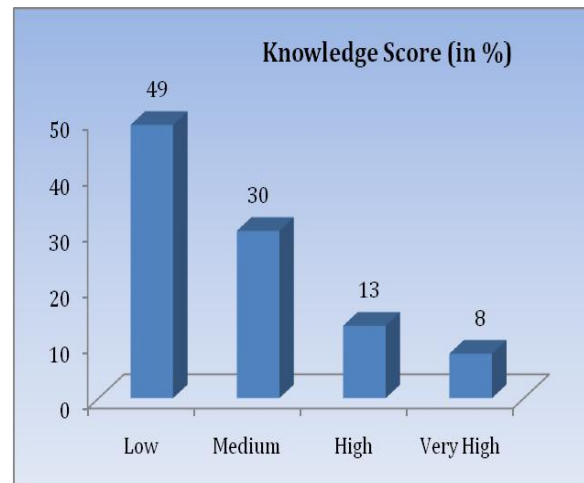

Figure 1: Knowledge Score of Patient's.

Hypothesis:

H0: There is no association between demographic variable and knowledge of patient regarding AMI.

H01: There is association between demographic variable and knowledge of patient regarding AMI.

Table 2: Shows association between Age Group vs. Knowledge of patients regarding AMI.

Kruskal Wallis Test				
Age	N	Knowledge ± SD Mean ± SD	KW	P-value
Up to 15 yr.	67	11.776±5.006		
15-30 yr.	55	13.382±5.205	4.483	0.2138
30-45yr.	48	14.229±5.211		
more than 45 yr.	40	12.70±5.426		

*significant when $p < 0.05$

Result: In above table P-value is 0.2138 which is greater than 0.05 hence there is no association between Age Group and knowledge of patients regarding AMI.

Table 3: Shows association between Gender vs. Knowledge of patients regarding AMI.

Unpaired t-Test					
Gender	N	Knowledge ± SD	t-value	P-value	Significance
Male	67	11.776±5.006			
Female	55	13.382±5.205	0.6353	0.5259	Not significant

*significant when $p < 0.05$

Result: In above table P-value is 0.5259 which is greater than 0.05 hence there is no association between Gender and knowledge of patients regarding AMI.

Table 4: Shows association between Religion vs. Knowledge of patients regarding AMI

One-Way ANOVA				
Religion	N	Knowledge ± SD Mean ± SD	F	P-value
Hindu	98	13.071±5.321		
Muslim	90	13.056±5.245	0.5557	0.5745
Others	22	11.818±4.876		

*significant when p<0.05

Result: In above table P-value is 0.5745 which is greater than 0.05 hence there is no association between Religion and knowledge of patients regarding AMI.

Table 5: Shows association between Education vs. Knowledge of patients regarding AMI

One Way -ANOVA				
Education	N	Knowledge ± SD Mean ± SD	F-value	P-value
illiterate	45	12.88±5.437		
school education	85	13.61±5.222	0.96	0.4126
Higher secondary	54	12.314±5.186		
Graduate & More	26	12.077±5.019		

*significant when p<0.05

Result: In above table P-value is 0.4126 which is greater than 0.05 hence there is no association between Education and knowledge of patients regarding AMI.

Table 6: Shows association between Occupation vs. Knowledge of patients regarding AMI

One-Way ANOVA				
Occupation	N	Knowledge ± SD Mean ± SD	F-value	P-value
self employed	11	13.181±5.231		
Service	80	12.238±5.102	0.7637	0.5156
Daily Wages	20	13.4±5.633		
Farmers	99	13.37±5.277		

*significant when p<0.05

Result: In above table P-value is 0.5156 which is greater than 0.05 hence there is no association between Occupation and knowledge of patients regarding AMI

Table 7: Shows association between Monthly income vs. Knowledge of patients regarding AMI

One-Way ANOVA				
Monthly Income	N	Knowledge ± SD Mean ± SD	F	P-value
Up toRs.5000	56	13.107±5.365		
5000 to Rs.10000	87	13.713±5.221	3.942	0.0209*
more than Rs 10000	67	11.447±5.006		

*significant when p<0.05

Result: In above table P-value is 0.0209which is less than 0.05 hence there is

association between Monthly Income and knowledge of patients regarding AMI

Table 8: Shows association between Marital Status vs. Knowledge of patients regarding AMI

One-Way ANOVA				
Marital Status	N	Knowledge ± SD Mean ± SD	F	P-value
Married	117	12.196±5.160		
Unmarried	68	13.852±5.210	2.659	0.0724
Widowed	25	13.88±5.302		

*significant when p<0.05

Result: In above table P-value is 0.0724 which is greater than 0.05 hence there is no association between Marital Status and knowledge of patients regarding AMI.

Table 9: Shows association between Family Status vs. Knowledge of patients regarding AMI

One-Way ANOVA				
Family Status	N	Knowledge ± SD Mean ± SD	F	P-value
Joint	117	12.196±5.160		
Single	68	13.852±5.210	0.4558	0.6346
Widowed	25	13.88±5.302		

*significant when p<0.05

Result: In above table P-value is 0.6346 which is greater than 0.05 hence there is no association between Family Status and knowledge of patients regarding AMI.

Table 10: Shows association between Habits vs. Knowledge of patients regarding AMI

One-Way ANOVA				
Habits	N	Knowledge ± SD Mean ± SD	F	P-value
Smoking	51	13.451±5.170		
Alcohol	31	12.742±5.495	0.6243	0.6001
mixed	46	13.457±5.378		
No	82	12.39±5.127		

*significant when p<0.05

Result: In above table P-value is 0.6001 which is greater than 0.05 hence there is no association between Habits Status and knowledge of patients regarding AMI

Table 11: Shows association between Disease vs. Knowledge of patients regarding AMI

One-Way ANOVA				
Previous Disease	N	Knowledge ± SD Mean ± SD	F	P-value
Diabetes	36	13.44±5.459		
Heart Disease	71	13.21±5.261	0.5271	0.5911
High B.P	103	12.563±5.160		

*significant when p<0.05

Result: In above table P-value is 0.5911 which is greater than 0.05 hence there is no

association between Disease Status and knowledge of patients regarding AMI.

DISCUSSION

As shown in table 1, the majority of the participants of this study were male patients with a ratio of (4:1). Majority of previous studies highlighted that than women, men are at higher risk for myocardial infarction. [6-8] In AMI Age is most important risk factor, this study revealed younger patient is more and this result not supports the finding of most previous studies which shown that as age increases, the incidence of coronary heart disorders increases. [6-7] The findings of this study revealed that hypertension, diabetes, heart disease are considered as major modifiable risk factors of AMI. This results stands with the most of previous study findings. [9, 10] there is definite correlation between people with high blood pressure and coronary artery disease because high blood pressure puts added force against the artery walls. By that time, the arteries can damage due to extra pressure. These injured arteries are more likely to become narrowed and hardened by fatty deposits. Diabetes Mellitus increases the risk for AMI attack incidence, mortality, and recurrence of MIs in middle-aged people. [11] 51 % of participants of present study were smokers, 31% of participants present study were alcoholics and 46% of participants present study were both alcoholics and smokers and this was consistently reflected in many of the previous studies. Tachycardia infection is dangerous due to Smoking and that produces pressure over the heart. [12] Furthermore, adrenaline secretion is stimulated by nicotine – one of the toxic substances present in the smoke – leading to increase in heart rate and blood pressure and these effects boost the workload over the heart, and then increasing the incidence of coronary heart diseases. The present study revealed that fast food was considered as risk factor for developing myocardial infarction, and this result is consistent with many of the previous studies). Patients'

Knowledge of risk factors was analyzed and revealed that more than half of participants had low level of knowledge about risk factors, and less than 10% of participants had very high level of knowledge which was similar with previous study in which only 42% of participants had good level of knowledge. [13] Furthermore, health care practitioner especially physicians and nurses, ASHA, health care providers do not counseling their patients about AMI which directly proportional to increase risk factors of myocardial infarction.

CONCLUSION

There are so many risk factors of AMI which should be mainly consideration during the treatment of patients for AMI. This study focused on predictor symptoms which increased complications in AMI. There is a deficiency of well knowledge among patients admitted with AMI.

Conflicts of Interest: None

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