A Study to Assess the Risk Factors of Myocardial Infarction and its Knowledge among Adults who Come to Emergency Department of Apollo Adlux Hospital

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Running Title: *Assessment of the risk factors of Myocardial Infarction and its knowledge among adults*

Abstract: *This study investigates the risk factors and knowledge regarding Myocardial Infarction (MI) among adults aged between 25 - 65 years at Apollo Adlux Hospital's emergency department. MI, a leading cause of mortality in India, shows a rising prevalence, especially in Kerala. Using a descriptive research approach data were collected from 100 participants through a structured interview method. Results highlight a significant presence of risk factors such as smoking, alcohol consumption, lack of exercise and obesity. Additionally, a substantial portion of participants displayed knowledge gaps concerning MI causes and prevention indicating the need for better awareness and education to reduce MI risks.*

Keywords: Myocardial infarction, Risk factors, Knowledge, Assessment

1. Background

Myocardial infarction is the foremost cause of death all over the world and is one of the top five causes of death in India. Mortality rate due to myocardial infarction has been rapidly increasing in India and is predicted to be overtaken that of the high - income countries. Adults over 30 years of age there have been a two - fold rise in Myocardial Infarction in rural areas during the recent decades. Kerala is considered to be the most advanced state in epidemiological transition and has the highest prevalence of MI risk factors in India. The environment in Kerala is conducive for increasing the CAD risk factors which is likely to result in an increase in the MI prevalence. Thus it is necessary to study the knowledge level and risk among people in Kerala for Myocardial Infarction.

"The best and beautiful things in the world cannot be seen or even touched, the must be felt with the heart"

Objectives
- To assess the risk factors of Myocardial Infarction among adults who are coming to emergency department of Apollo Adlux Hospital
- To determine the knowledge regarding myocardial infarction among adults who are coming to emergency department of Apollo Adlux Hospital
- **Kerala:** Kerala, **south - western coastal state of India**. It is a small state, constituting only about 1 percentage of the total area of the country. (www.britannica. com)
- **Lifestyle:** the way in which a person lives. (Oxford Languages)

Assumptions
- There may be more risk for myocardial infarction in patients who lead a sedentary lifestyle, obese, chronic smoking habits and alcoholic consumption.

- There may be enough knowledge regarding myocardial infarction among most of the adult patients who come in emergency department of Apollo Adlux Hospital.

Variables
- Risk factors
- Knowledge level

Demographic Variables
- Age
- Gender
- Occupation
- Level of education
- Family monthly income
- BMI

2. Methodology

- **Research Approach**
  Descriptive research approach
- **Research Design**
  Structured interview
- **Setting Of Study**
  Apollo AdluxHospital, Kerala
- **Duration**
  Two months
- **Targeted Population**
  Adults aged between 25–65 years who come at emergency department of Apollo Adlux Hospital
- **Sample Size**
  100
- **Sampling Technique**
  Simple random Sampling

- **Inclusion Criteria**
  Adult patients aged between 25 – 65 years who come in emergency department of Apollo Adlux Hospital.

- **Exclusion Criteria**
  The targeted population who need emergency interventions.
- The targeted population who are not willing for the study

- **Ethical Consideration**
  Permissions is taken from CEO, DGM Nursing and DMS of Apollo Adlux Hospital

3. Results

The proper permission was obtained from DMS, Head of Emergency Department and Nursing head of Apollo AdluxHospital. The structured questionnaire was developed after doing extensive literature reviews from primary and secondary sources of data. The expert's suggestions were incorporated in the research tool. The knowledge was assessed by eliciting response based on the structured questionnaire. Formal consent was obtained from sample group and confidentiality of the responses was assured. A brief introduction was given about researcher and the study will be explained. The investigator collected data from the sample with help of tool and interview technique.

Table 1

Demographic Variables	Number	Percentage
1. Age in years		
25 – 35 years	31	31%
36 – 45 years	33	33%
46 – 55 years	22	22%
56 – 65 years	14	14%
2. Gender		
Male	51	51%
Female	49	49%
3. Education		
Primary	19	19%
Secondary	42	42%
Territory	39	39%
4. Income		
Below 30000rs	35	35%
300000rs – 100000rs	53	53%
Above 100000rs	12	12%

Table 1 shows that 33% were aged between 35 and 45 years, 31% were aged between 25 and 35 years, 22% were aged between 45 and 55 years, 14% were aged between 55 and 65 years, and 51% of were male and 49% 0f were female, among which 19% of had primary level education 42% had secondary level education and 39% had territory level education.
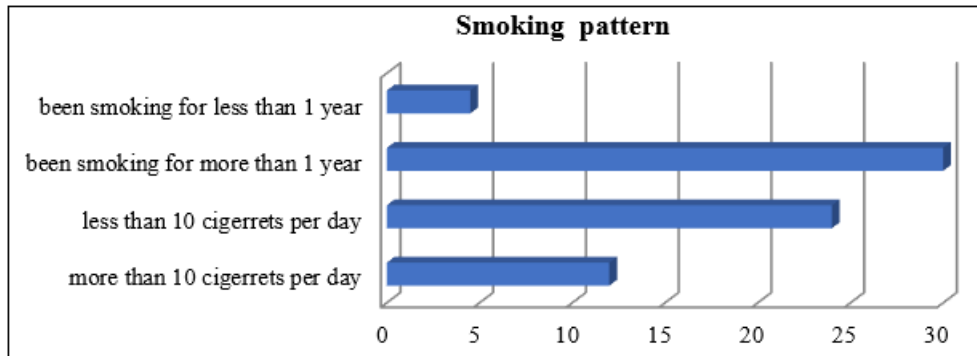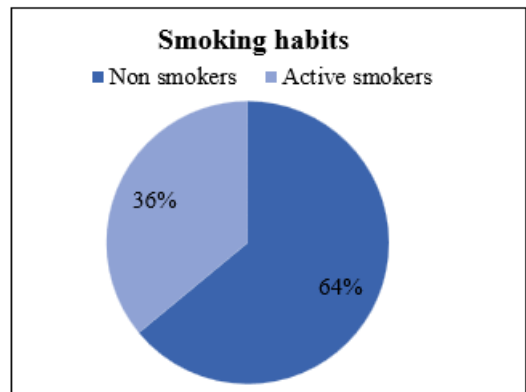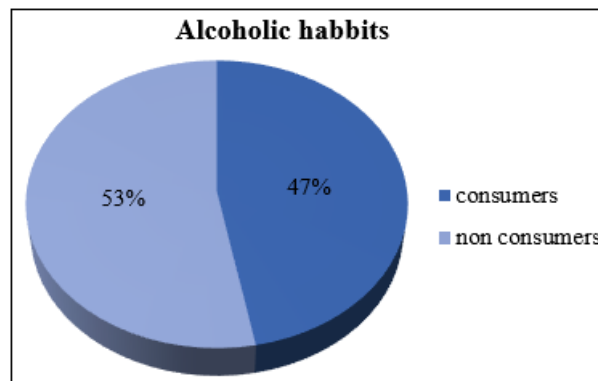

Figure 1 illustrates that 64% of were non - smoker and 36% of were smoker, and 24% of were taking less than 10 cigarettes per day and 12% of were taking more than 10 cigarettes per day. When around 6% of has been smoking for less than one year, 30% has been smoking for more than 10 years.
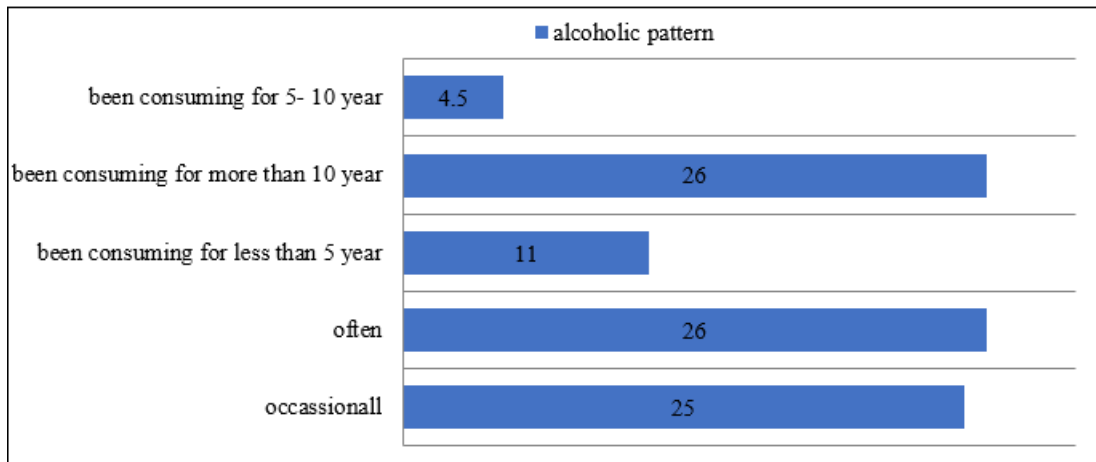

Figure 1

Figure 2

- Often consumers - For men, consuming five or more drinks on any day or 15 or more per week. For women, consuming four or more on any day or eight or more drinks per week. (According to National Institute On Alcohol abuse and Alcoholism)
- Occasional consumers - Casual or social drinking are those who will drink occasionally, usually in a responsible manner, meaning they rarely get drunk or black out. Casual drinkers meet the following criteria: They know when to stop drinking. (According to www.alpinerecovery lodge. com)

Figure 2 shows 53% of were not consuming alcohol, and 26% and 25% consumes alcohol for daily and occasionally respectively. 11% of the sample group has been consuming alcohol for less than 5 - year, 16% for 5 - 10 years and 26% for more than 10 years.

Mild physical activity - work a job with light physical demands, or you work a desk job and perform light exercise (at the level of a brisk walk) for 30 minutes per day, 3 - 5 times per week. (Centres for Disease Condition and Prevention)

Moderate physical activity - Moderate physical activity means that working hard enough to breathe harder, raising heart rate, and break a sweat (at the level of speed walk). (Centres for Disease Condition and Prevention)

Severe physical activity - Vigorous activities require the highest amount of oxygen consumption to complete the activity (at the level of running) (extension. sdatate. edu)

Figure 3 shows that 42% of were not doing any exercise whereas 28% of were doing exercise. While 42% of the sample group have mild physical activity in their job, 43 and 10% have moderate and severe physical activity respectively.
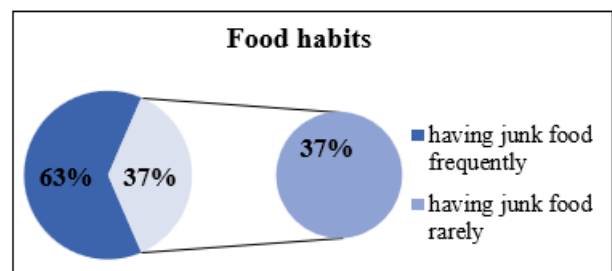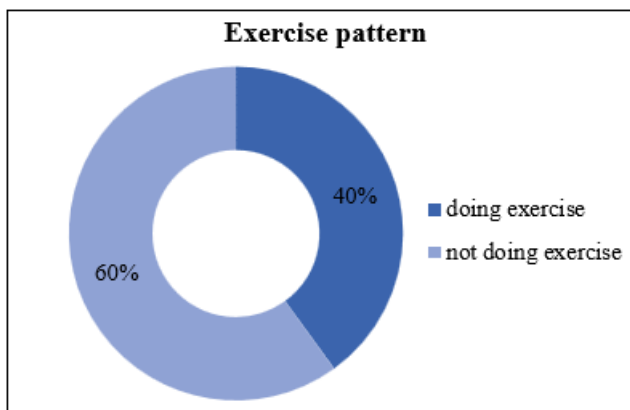

Figure 4

Figure 4 elucidates 63% of the sample group are interested to have junk food. Whereas 37% of the same are not interested to have junk food.
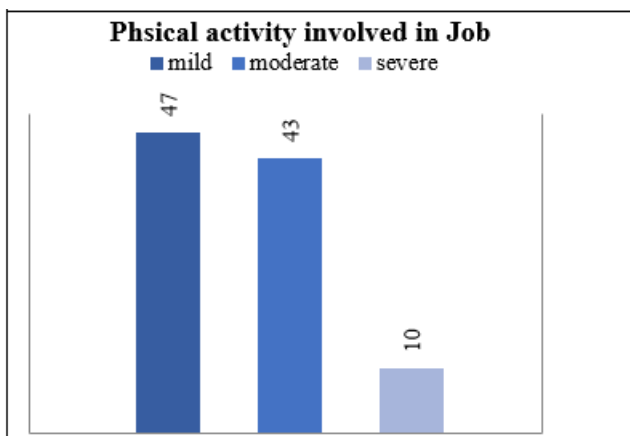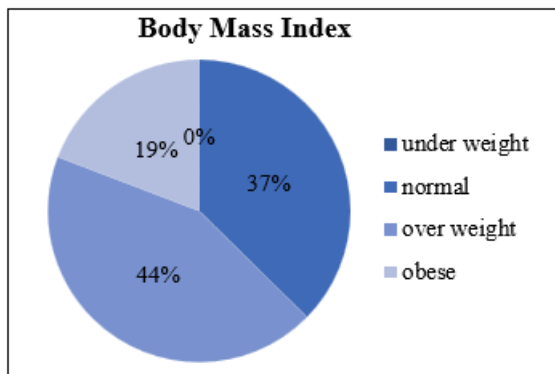

Figure 3

Body Mass Index

■ under weight
■ normal
■ over weight
■ obese

Figure 5

Under weight - under 18.5
Normal - between 18.5 and 24.9
Over weight - between 25 and 29.9
Obese - between 30 and 39.9

Figure 5 illustrates the BMI of the sample group.37% of are under normal BMI, 43% are under overweight category and 19% of them are under obese. It is interesting to note that nil proportion is underweight.

RISK GROUPS AMONG STUDY POPULATIONS
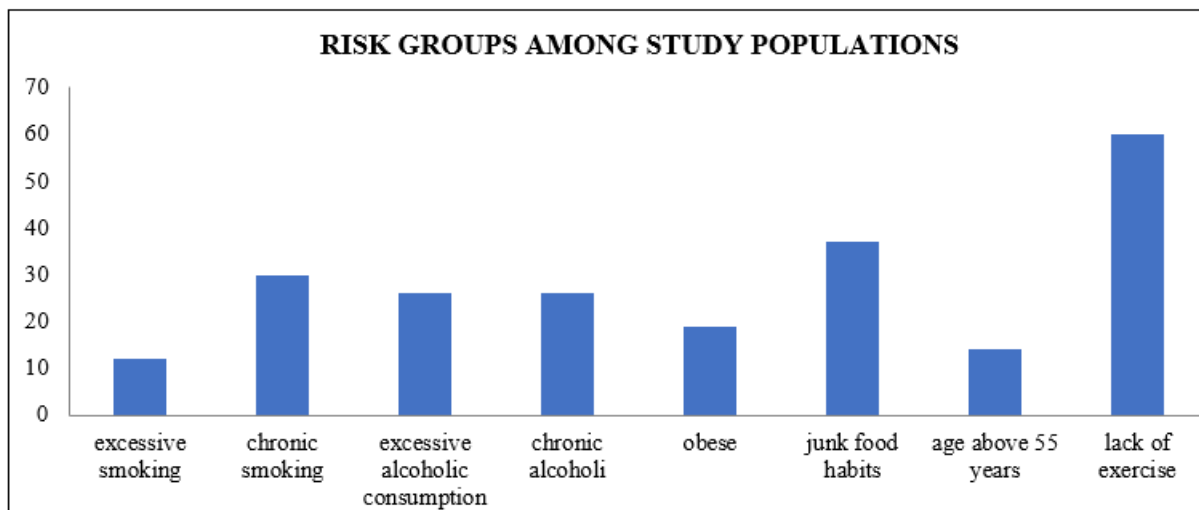
Graph 1

Graph 1 elucidates the total risk group of various category.

Mean and standard deviation of risk group analysis of patients, who under the age group of 25 - 65 years and received in the emergency department of Apollo Adlux Hospital.

Mean: 12+30+26+26+60+37+19+14 = 224_8 =28
Median: 26
Standard Deviation = 14.36

Knowledge Level of Sample Group

S. No	Knowledge Assessing Questions	Knowledge Level	
		Yes In %	No In %
1	What is the function of heart?	85	15
2	What you mean by heart attack?	61	39
3	What is the main cause of heart attack?	77	23
4	Which is not the warning sign of heart attack?	74	26
5	Which habits can lead to heart attack?	67	33
6	Which habits can improve heart health?	57	43
7	What type of food habits pre dispose heart attack?	49	51
8	Which age group is at higher risk of heart attack?	68	32
9	What differentiate cardiac arrest from heart attack?	47	53

4. Discussion

The present study revealed that the standard deviation (SD) IS 14.36, Mean is 28, Median is 26, regarding risk assessment 36% of the sample group were smoker and 26% were consumer of alcohol, among which 12% were taking more than 10 cigarettes per day, 30% of them has been smoking for more than 10 years. Similarly 26% were consuming alcohol for more than 10 years.42% of the sample group were not doing any exercise and 63% off them have interest to take have junk foods.19% of the sample group comes under obese category. This study comes under descriptive analytical method. The study was conducted among 100 adults aged between 25–65 years, who came at Emergency Department of Apollo Adlux Hospital. The study sample was selected by simple random sampling. The tool used for data collection consisted of demographic and structured questionnaire. The analysis is done by using quantitative and inferential statistics.

5. Conclusion

Acute myocardial infarction (AMI) remains a primary reason for morbidity and mortality globally the above study have identified that risk factors included tobacco use, chronic alcoholic consumption, unhealthy food habits, lack of exercise and obesity. Hence knowledge is power, If you understand the risks for heart attack you can take steps to take improve your health.

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