International Journal of Trend in Scientific Research and Development (IJTSRD)
International Open Access Journal | www.ijtsrd.com
ISSN No: 2456 - 6470 | Volume - 3 | Issue – 1 | Nov – Dec 2018

Assessment of MI (Myocardial Infarction) Risk Factors Among Post-MI

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ABSTRACT

Introduction: The identification of risk factors is important to reduce the risk of myocardial infarction. **Material and Methods:** A quantitative non-experimental research study was conducted to assess the risk level & various risk factors of MI among the post-MI patients, and to find the association of risk level of MI with socio-demographic variables of post-MI patients. Seventy post-myocardial infarction patients were selected as sample that was selected by purposive sampling technique from a tertiary care hospital in Dehradun. The data were collected by using self-reported risk assessment tool. **Results:** The study results shows that the majority 69 (98.6%) of the study participants were with the diagnosis of CAD with MI. The majority 64 (91.4%) of the study participants had not attended any educational programme on CAD/Heart disease prevention. The study results shows that majority 58 (82.86%) of participants were having moderate risk of MI. As per this study the risk factors which were identified for MI were like male with 41 to 60 years, weight more than ideal weight, smoking habits, stress, eating sweet diets, personality type-A, no regular exercise and Diabetes mellitus. The association of MI risk level with the co-morbidity (including diabetes, hypertension or both) was statistically significant at the level of 0.05 significance. **Conclusion:** It is concluded that the people after the MI attack had moderate and severe risk of developing MI.

Key Words: *Risk factors, Myocardial Infarction, Awareness, Lifestyle practices, Modified Lifestyle Practices, Post-Myocardial infarction*

INTRODUCTION

The incidence of MI in the world varies greatly. More than 80% of the cardiovascular diseases occur in the developing countries. An Indian Population shows a lack of awareness relating to risk factors of heart diseases. By identifying risk factors, the risk of MI can be identified and by the help of which further variations in the lifestyle practices will be made that can reduce the risk of MI.[1]

Globally, about 17.5 million of the deaths in 2012 occurred due to the cardio vascular diseases. Majority (75%) of these deaths occurred in the developing countries where the mortality rate from the coronary heart diseases is rapidly declining; but it is continuously increasing in the developing countries. This type of increase is made due to the urbanization, industrialization, and the related lifestyle variations, known as epidemiological transition.[2]

MATERIAL AND METHODS

A non-experimental quantitative research study was conducted to assess the level of risk and the risk factors of MI among the post-MI patients, and to find the association of MI risk level with the socio-demographic variables of post-MI patients. The total 70 samples were selected for the final study by using purposive sampling technique from the tertiary care hospital in Dehradun. After taking the written consent from each study participant, the self-reported risk assessment tool (r=0.89) was used to collect the data regarding the risk of Myocardial Infarction among the post-MI patients. The Data for the final analysis were analyzed by using SPSS software program version 17.00.

RESULTS

1. Socio-demographic characteristics of the study participants.

(A) Frequency & Percentage of Socio-demographic variables of the study participants.

N=70

S. No.	Variables	Frequency (f)	Percentage (%)
(A)	**Socio-demographic variables:**		
1.	**Age in years :**		
	• 36-55 years	30	42.9
	• 56-75 years	40	**57.1**
2.	**Gender :**		
	• Female	15	21.4
	• Male	55	**78.6**
3.	**Occupation :**		
	• Businessman & Employee	40	**57.1**
	• Farmer & Housemaker	30	42.9
4.	**Co-morbidity :**		
	• No	24	34.3
	• Yes (including hypertension, T_2 diabetes mellitus, and both)	46	**65.7**
5.	**Educational status :**		
	• Primary & High school	45	**64.3**
	• Intermediate and above	25	35.7
6.	**Marital status :**		
	• Married	53	**75.7**
	• Widow / Widower	17	24.3
7.	**Type of Family :**		
	• Joint	59	**84.3**
	• Nuclear	11	15.7
8.	**Family history of other illness :**		
	• No	42	**60.0**
	• Yes	28	40.0
9.	**Monthly Income (in Rs.) :**		
	• < 15000	45	**64.3**
	• > 15000	25	35.7
10.	**Area of Residence :**		
	• Rural	51	**72.9**
	• Urban	19	27.1
11.	**Have you attended any educational programme on CAD / heart disease prevention :**		
	• No	64	**91.4**
	• Yes	6	8.6
12.	**Sources of health related information :**		
	• Printed Media (Newspaper).	20	28.6
	• Electronic Media (TV/ Radio/Internet)	50	**71.4**
13.	**Type of Personality:**		
	• Type A	47	**67.1**
	• Type B	23	32.9

Table No. 1

(B) Frequency & Percentage of Clinical variables of the study participants.

N=70

S. No.	Variables	Frequency (f)	Percentage (%)
(B)	**Clinical variables:**		
1.	**Diagnosis:** • CAD with MI • DCMP with MI	 69 1	 **98.6** 1.4
2.	**Duration of Illness (when he/she was diagnosed as CAD) :** < 1 year 1 – 3 Year 4 – 6 Year	 50 16 4	 **71.4** 22.9 5.7
3.	**How many times you have suffered MI ?:** 1 time 2 times 3 times >3 times	 27 29 10 4	 38.6 **41.4** 14.3 5.7
4.	**Duration of stay in hospital :** 1 day 2 days 3 days 4 days >4 days	 10 28 21 5 6	 14.3 **40.0** 30.0 7.1 8.6
5.	**Treatment Undergoing/ Underwent Procedure :** • CAG with pharmacological management. • CAG, pharmacological management with CAP.	 30 40	 42.9 **57.1**

Table No. 2

2. Level of risk of MI among study participants

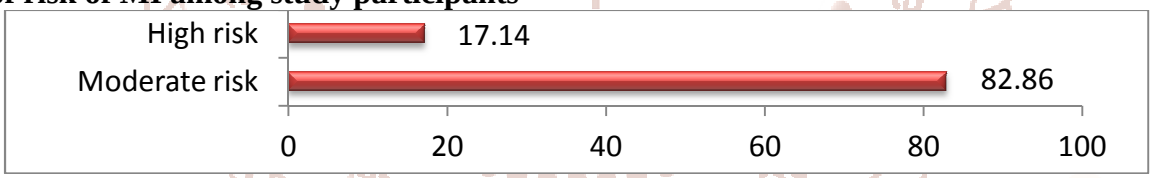

Diagram no. 1

The bar diagram no. 1 shows that majority 58 (82.86%) of participants were having moderate risk of MI. Hence, all the study participants already had MI attack. So, the pre-MI risk shows that all the participants either on moderate risk or on high risk got the MI attack

3. Description of the various risk factors of the MI among study participants:

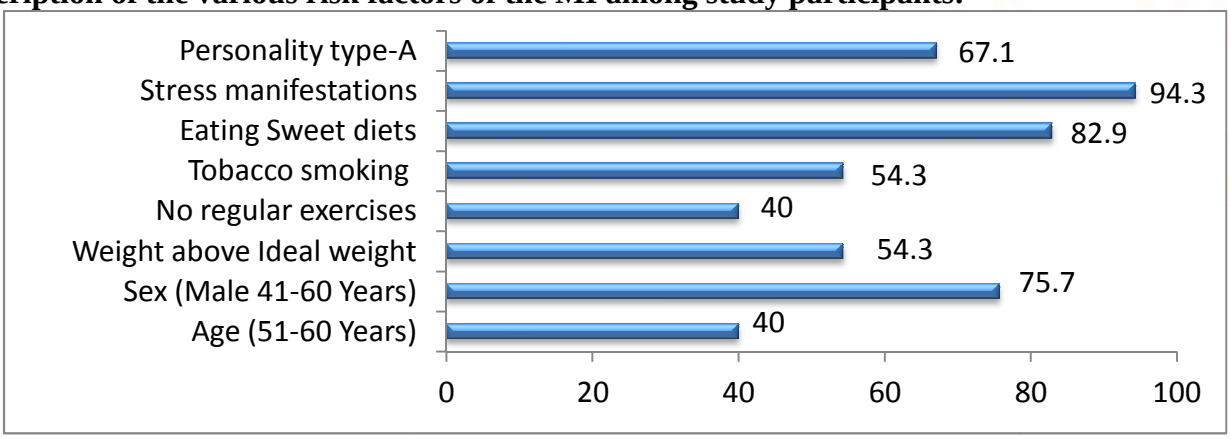

Diagram no. 2

As per this study the bar diagram no. 2 illustrates that the risk factors which were identified for MI were like age with the age group of 51 to 60 years, gender including male with 41 to 60 years, weight more than ideal weight, smoking habits, stress, eating sweet diets, personality type-A, no regular exercise and Diabetes mellitus.

4. Association between Risk Assessment score for MI and selected socio- demographic variables.

N=70

S. No.	Variables	Below Median (< 39)	At & Above Median (> 39)	Chi-square	df	p-value	Significance
1.	**Co-morbidity :** • No ▪ Yes (including hypertension, T_2 diabetes mellitus, and both)	 18 13	 6 33	13.964	1	0.0001	**Sig**

Table no. 3

The table no. 3 shows that there was statistically significant association between the level of risk of MI and the co-morbidity at the level of 0.05 significance.

DISCUSSION

The perspectives of the findings have been discussed with reference to the research problem, concept, and objectives with the study findings of other studies. The assessment of level of risk, risk factors assessment of post-MI patients in tertiary care hospital of Dehradun, Uttarakhand was assessed.

1. Discussion on the assessment of the level of the risk of MI among post-MI patients:

The findings of the study revealed that the majority 58 (82.86%) of participants were having moderate risk of MI, 12 (17.14%) were having high risk of MI, where as no one was on low risk.

The outcomes of the study project are promoted by a previous study done by **Lanas F, et al. (2007)**, which shows that, the risk factors were reponsible for eighty-eight percent of the population-attributable risk. [3]

2. Discussion on the risk factors of MI among post-MI patient:

The findings of the study showed that the more than one-third 28 (40%) of the study participants were in the age group of 51 to 60 years. Nearby half 32 (45.7%) of the study participants were males with the age group of 41 to 60 years. The majority 45 (64.3%) of the study participants were without any close relative with CAD. More than half 38 (54.3%) of the study participants were with the body weight of 2 to 8 kg above the ideal weight. About 28 (40%) of the study participants were having active occupation with no regular exercises. More than half 38 (54.3%) of the study participants used to smoke, but now stopped. More than one-fourth 19 (27.1%) of the study participants were non-vegetarian & used to eat foods cooked in oil, but don't eat fried foods, cream of milk, butter/ghee, cheese, eggs, etc. Majority 58 (82.9%) of the study participants were used to eats sugar, sweets, cakes, ice-creams, etc. Majority 66 (94.3) of the study participants used to wish to be happy as others seem to be. Majority 47 (67.1%) of the study participants were having type-A personality.

The results of this research project are promoted by a previous research study done by **Rawat H, Sharma RK (2017),** which reveals that the risk factors including hyperglycemia, obesity, physical activity, dietary habits, and stress were detected more prevalent in plain area while smoking, hypertension and personality type were more common in hilly area of Uttarakhand.[4]

3. Discussion on association between the level of risk score of post-MI patients with their socio-demographic variable:

The present study findings revealed that the association of MI risk level with the co-morbidity of hypertension and diabetes mellitus or both was statistically significant. Hence, it is interpreted that the participants who were having any co-morbidity (associated illness), had more risk of MI.

The study project findings are promoted by a previous study conducted by **Leon BM, Maddox TM (2015).** The study findings revealed that as the incidence of diabetes continues to elevated, linked cardiovascular diseases - through both of the traditional cardiac risk factors and the direct response of diabetes over cardiovascular diseases - can also be anticipated to elevate. [5]

CONCLUSION

The study concludes that the people, who were on moderate or severe risk of MI, had MI attack. So, conclusion is that the people who have undergone the MI attack they must modify the life style practices, so as to reduce the reoccurrence of MI.

ACKNOWLEDGEMENT

A successful research is only be conducted by proper guidance & coordination of the researcher. I would like to be very much thankful for the precious guidance from my guide and experts. I extend my special thanks for the validators for validating tools for the study. My heartfelt thanks to all the study subjects for their participation in completion of the study.

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