*Journal of Pharmaceutical Research International*

***33(47A): 662-667, 2021; Article no.JPRI.75563***
***ISSN: 2456-9119***
*(Past name: British Journal of Pharmaceutical Research, Past ISSN: 2231-2919, NLM ID: 101631759)*

# Identify Contributing Factors of Myocardial Infarction among Cardiac Patients

**Rupal Patel[1*], Nirali Soni[2], Rathod Aayushi[3], Rathod Kinjal[3] and Rathva Jaypal[3]**

*[1]Sumandeep Vidyapeeth Deemed to be University, Vadodara, Gujarat, India.*
*[2]Child Health Nursing Sumandeep Nursing College, Sumandeep Vidyapeeth Deemed to be University, Vadodara, Gujarat, India.*
*[3]Sumandeep Nursing College, Sumandeep Vidhyapeeth Deemed to be University, Vadodara, Gujarat, India.*

***Authors' contributions***

*This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.*

***Article Information***

DOI: 10.9734/JPRI/2021/v33i47A33058
Editor(s):
(1) Dr. Sawadogo Wamtinga Richard, Ministry of Higher Education, Scientific Research and Innovation, Burkina Faso.
Reviewers:
(1) Bethanney Janney, Sathyabama Institute of Science and Technology, India.
(2) Saeid Rostami, Ragheb Isfahani Higher Education Institute, Iran.
Complete Peer review History: https://www.sdiarticle4.com/review-history/75563

***Original Research Article***

***Received 12 August 2021***
***Accepted 23 October 2021***
***Published 29 October 2021***

## ABSTRACT

**Background:** Cardiovascular disease is becoming a major burden in developing countries, It is considered as important public health problem not only in the developed countries but also in developing countries like India. It has emerged as a major health burden worldwide. It contributed to 15.3 million deaths in 1996 of which 5.5 million was from developed countries and 9077 million from developing countries. A rise in the prevalence decline in the latter half have been well documented in the industrialized countries. However, the scenario is reversed in developing countries especially India with a steady escalation in prevalence of Cardio Vascular disease
**Aims and Objectives:** The purpose of this study was to assess contributing factors among Myocardial Infarction,to find out the association between contributing factors of myocardial infarction with their demographic variable and to identify contributing factors of myocardial infarction.

**Corresponding author: E-mail: rupalpatel1515@gmail.com;*

**Methods and Mateials:** A descriptive study was carried out on 100 myocardial infarction patients who were admitted to the Intensive coronary care unit of selected cardiology ward in selected hospital, Vadodara. Patients were selected by Non- Probability convenient Sampling technique. The collected data was analyzed though SPSS software.
**Results:** The majority contributing level of Myocardial infarction 42(42%) were mild, 32(32%) of the patients were moderate, 26(26%) of the patients were severe. There was no significant association was found between contributing factors of myocardial infarction with their demographic variables.
**Conclusion:** Result revealed that most of the patients (42%) were having mild contributing factors and were having moderate contributing factors (32%) and least percentage (26%) were having severe contributing factors among myocardial infarction patients.

*Keywords: Myocardial infarction; contributing factors; ICCU; cardiology ward.*

## 1. INTRODUCTION

Acute myocardial infarct (AMI) needs prompt recognition and management. Approximately one-third of deaths from AMI occur within few hours of onset of symptoms and typically before the patients reach to hospital. Although AMI is related to relatively high morbidity and mortality, it's documented that timely reperfusion therapy may result in dramatically improved patient clinical outcomes [1]. Delays in seeking medical care are related to adverse consequences on patients' conditions and medical cost and limit the potential benefits of early interventions. The quotation "time is muscle" is employed to spotlight the importance of saving time and starting treatments without delay [2]. Early therapy improves the prevalence of all these RFs increased temporally except for the rate of dyslipidemia, which decreased more recently. Were generally consistent across sex and racial groups [3]. The prevalence and mortality rates of coronary artery disease have been known to be higher in the Indian than the Westernpopulation [4]. Socioeconomic differences have been shown to be linked with the prevalence of coronary artery disease (CAD) and its risk factors such as dyslipidaemia based on urban–rural comparisons. [5] risk factors--smoking, physical inactivity, hypertension, hypercholesterolemia, diabetes and obesity--as well as factors peculiar to south Asians--truncal obesity, low HDL-cholesterol and high triglycerides--in this urban Indian population. [6] the prevalence ofhypercholesterolaemia, hypertriglyceridaemia and elevated LDL cholesterol was observed to be higher in the middle income group compared to the low income group [7]. As compared to a previous study in the early 1900s in a similar population, there is a significant increase in the number of people with obesity, diabetes and dyslipidemias [8]. The relative importance of coronary artery disease (CAD) risk varies globally. The aim of this study was to determine CAD risk factors for acute myocardial infarction (AMI) among patients in public health care institutions in Trinidad using a case–control type study design [9]. Various studies have shown that people of Indian origin have an increased risk of ischemic heart disease (IHD) compared with most other ethnic groups [10]. Yantai is a developed medium-sized coastal city in Eastern China, having a population of 1.6845 million. With the development of economy, some middle-aged and adolescent people (< 45 years) devote themselves to work and suffer from greater stress [11]. These diseases have caused mortality in developed countries more than other diseases and impose numerous social and economic costs [12]. India requiresavailability of reliable and comprehensive state-level estimates of disease burden and risk factors over time. Such comprehensive estimates have not been available so far for all major diseases and risk factors [13]. Dyslipidemia – a modifiable risk factor of Coronary Artery Diseases (CAD) is often subjected to ethnic variations. Different communities are known to possess different pattern of lipid abnormalities [14].

## 2. MATERIALS AND METHODS

The samples were selected by Non-Probability convenient Sampling Technique. The study was carried out in Selected Hospital, Vadodara. The sample size was 100 though the Power analysis. The samples were recruited from Intensive coronary care unit, Cardiology ward of Selected Hospital,Vadodara. The data collection period lasted for two months in 2021. The participants were approached during their free time. Each of them was informed about intention of study and obtained written consent with the guaranty of their anonymity and confidentiality of data. The participants were requested to complete the questionnaires and returned back in give time.

The obtained data were analyzed using SPSS software. More specifically, descriptive statistics (percentage, mean, standard deviation) were used to describe the samples characteristics, the contributing factors of myocardial infarction among cardiac patients admitted in ICCU, cardiology word. Finally, the impact of relationship between two variables were assessed using liner regression analysis. Chi-square test in order to find out association between contributing factors of myocardial infarction patients.

## 2.1 Statistics

- Descriptive and Inferential Statistics was used in this research study by using SPSS software.

## 3. RESULTS

## 3.1 Interpetation

Above Fig. 1 shows that mild 42(42%) of the patients were moderate 32(32%) of the patients were severe 26(26%) of patients were severe contributing factors among myocardial infraction patients.

Table 1, there was no significant association between contributing factors of myocardial infarction. Fig 1. Table 2 shows that, mild 42(42%) of the patients were moderate 32(32%) of the patients were severe 26(26%) of the patients were severe Table 2. Represent the Frequency and percentage distribution of samples, according to their demographic characteristics. It was observed that among 100 patient male patients 58(58%) female patients 42(42%). Age 49(49%). Belongs to 20 to 30 year, 25(25%) belongs to 31 to 40year.17(17%) belongs to 41 to 50,9(9%) belongs to above to 50. Diet 62(62%) belongs to vegetarian 37(37%) belongs to non vegetarian. Educational status 56(56%) belongs to illiterate 31(31%) belongs to up to secondary 13(13%) belongs to above secondary. Family history of myocardial infarction 67(67%) patients having MI, 31(31%) were not having family history of MI. previous history of hospitalization 58(58%) have history of hospitalization,39(39%)having no any previous history of hospitalization.

## 4. DISCUSSION

The present study was carried out among Myocardial Infraction Patients out of 100, 42(42%) of the patients were Mild, 32(32%) of the patients were Moderate, 26(26%) of the patients were Severe. countries specially India with a steady escalation in prevalence of cardiovascular disease.

**Table 1. Data on association between contributing factors of myocardial infarction**

| Variables | Categories | Frequency | Percentages |
|---|---|---|---|
| **Gender** | a .Male | 58 | 58 |
| | b .Female | 42 | 42 |
| **Age** | a .20-30 | 49 | 49 |
| | b .31-40 | 25 | 25 |
| | c .41-50 | 17 | 17 |
| | d.Above50 | 9 | 9 |
| **Diet** | a .Vegetarian | 62 | 62 |
| | b .Non vegetarian | 37 | 37 |
| **Education status** | a .Illiterate | 56 | 56 |
| | b. Up to Secondary | 31 | 31 |
| | c. Above Secondary | 13 | 13 |
| **Family history of** | a. Yes | 67 | 67 |
| **Myocardial Infraction** | b .No | 31 | 31 |
| **Previous history of** | a .Yes | 58 | 58 |
| **Hospitalization** | b. No | 39 | 39 |

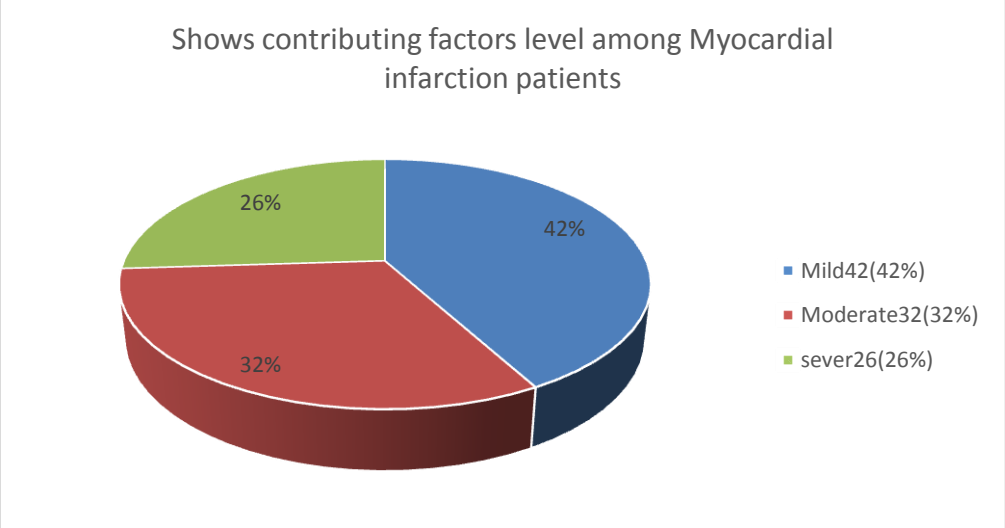


**Fig. 1. Shows contributing factors level among myocardial infarction patient**

**Table 2. Data on association between contributing factors of myocardial infarction**

| Demographic variable | Category | Level of component | | | Total | Chi-square | Df | Level of Significant |
|---|---|---|---|---|---|---|---|---|
| | | Mild | Moderate | Severe | | | | |
| **Gender** | a. Male | 13 | 38 | 7 | 100 | 0.16 | 2 | NS |
| | b. Female | 9 | 28 | 5 | | | | |
| **Age** | a.20-30year | 10 | 33 | 6 | 100 | 6.318 | 6 | NS |
| | b. 31-40 | 8 | 15 | 2 | | | | |
| | c. 41-50 | 1 | 14 | 2 | | | | |
| | d. Above 50 | 3 | 4 | 2 | | | | |
| **Diet** | a. Vegetarian | 12 | 43 | 7 | 100 | 1.580 | 4 | NS |
| | b. Non Vegetarian | 10 | 22 | 5 | | | | |
| **Education Status** | a. Illiterate | 15 | 34 | 7 | 100 | 2.920 | 4 | NS |
| | b. Up to secondary | 4 | 24 | 3 | | | | |
| | c. Above Secondary | 3 | 8 | 2 | | | | |
| **Family History of MI** | a. Yes | 17 | 39 | 11 | 100 | 6.565 | 4 | NS |
| | b. No | 5 | 25 | 1 | | | | |
| **Previous History of Hospitalization** | a. Yes | 15 | 34 | 9 | 100 | 5.798 | 4 | NS |
| | a. No | 7 | 30 | 2 | | | | |

In present study, it was observed that among 100 patients Male patients 58(58%) Female patients 42(42%).Age 49(49%).Belongs to 20 to 30 year, 25(25%) belongs to 31 to 40 year17 (17%) belongs to 41 to 50, 9(9%) belongs to above 50.Diet 62(62%) belongs to Vegetarian, 37(37%) belongs to non- vegetarian. Educational status 56(56%) belongs to illiterate 31(31%) belongs to up to secondary 13(13%) belongs to above secondary. Family history of myocardial infraction 67(67%) patients having MI, 31(31%) were not having history of MI. Previous history of

hospitalization 58(58%) have history of hospitalization,39(39%) having no any previous history of hospitalization.

The present study result shows the Variation of Myocardial Infraction that, 42(42%) of the patients were mild, 32(32%) of the patients were moderate 26(26%) of the patients were severe. There was no significant association between contributing factors of myocardial infraction.

## 5. CONCLUSION

Result revealed that most of the patients (42%) were having mild contributing factors and least percentage (26%) were having severe contributing factors among myocardial infarction patients.

## CONSENT

As per international standard of university standard, patients written consent has been collected and preserved by the author(s).

## ETHICAL APPROVAL

The study was approved from ethical committee of sumandeep vidhyapeeth institutional ethical committee and ethical approval number is SVIEC/ON/NURS/SRP/21030.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

## REFERENCES


1. Ghazawy ER, Seedhom AE, Mahfouz EM. Predictors of delay in seeking health care among myocardial infarction patients, Minia District, Egypt. Advances in Preventive Medicine; 2015.
2. Cannon CP, Gibson CM, Lambrew CT, Shoultz DA, Levy D, French WJ, Gore JM, Weaver WD, Rogers WJ, Tiefenbrunn AJ. Relationship of symptom-onset-to-balloon time and door-to-balloon time with mortality in patients undergoing angioplasty for acute myocardial infarction. Jama. 2000;283(22): 2941-7.
3. Yandrapalli S, Nabors C, Goyal A, Aronow WS, Frishman WH. Modifiable Risk Factors in Young Adults With First Myocardial Infarction. J Am Coll Cardiol. 2019;73(5):573-584.
DOI: 10.1016/j.jacc.2018.10.084.
PMID: 30732711
4. Bahall M, Seemungal T, Legall G. Risk factors for first-time acute myocardial infarction patients in Trinidad. BMC public health. 2018;18(1):1-8.
5. Rao V, Rao P, Carvalho N. Risk factors for acute myocardial infarction in coastal region of india: A case-control study. Heart India. 2014;2(3):70.
6. Du H, Dong CY, Lin QY. Risk factors of acute myocardial infarction in middle-aged and adolescent people (< 45 years) in Yantai. BMC cardiovascular disorders. 2015;15(1):1-4.
7. Kiani F, Hesabi N, Arbabisarjou A. Assessment of risk factors in patients with myocardial infarction. Global journal of health science. 2016;8(1):255.
8. Dandona L, Dandona R, Kumar GA, Shukla DK, Paul VK, Balakrishnan K, Prabhakaran D, Tandon N, Salvi S, Dash AP, Nandakumar A. Nations within a nation: variations in epidemiological transition across the states of India, 1990–2016 in the Global Burden of Disease Study. The Lancet. 2017;390(10111): 2437-60.
9. Deshmukh JK. High Density Lipoprotein Cholesterol as a Risk Factor of Coronary Artery Diseases in Young Western Indians: A Comparison with Other Lipid Markers Jagjeet K. Deshmukh, Jayesh S. Prajapati, Komal H. Shah, Krutik a H. Patel, Subhash D. Chaudhari, Pooja M. Vyas, Alok Shinde, Saurabh R. Bagga.
10. Enas EA, Singh V, Munjal YP, Bhandari S, Yadave RD, Manchanda SC. Reducing the burden of coronary artery disease in India: challenges and opportunities. Indian Heart J. 2008;60(2):161-75.
11. Goel PK, Bharti BB, Pandey CM, Singh U, Tewari S, Kapoor A, Garg N, Sinha N. A tertiary care hospital-based study of conventional risk factors including lipid profile in proven coronary artery disease. Indian Heart Journal. 2003;55(3): 234-40.
12. Pradeepa R, Deepa R, Rani SS, Premalatha G, Saroja R, Mohan V. Socioeconomic status and dyslipidaemia in a South Indian population: the Chennai Urban Population Study (CUPS 11). National Medical Journal of India. 2003;16(2):73-8.

13. Gupta R, Gupta VP, Sarna M, Bhatnagar S, Thanvi J, Sharma V, Singh AK, Gupta JB, Kaul V. Prevalence of coronary heart disease and risk factors in an urban Indian population: Jaipur Heart Watch-2. Indian heart journal. 2002;54(1):59-66.

14. Gupta R, Gupta VP, Prakash H, Sarna M, Sharma AK. Hindu-Muslim differences in the prevalence of coronary heart disease and risk factors. Journal of the Indian Medical Association. 2002;100(4): 227-30.



*Peer-review history:*
*The peer review history for this paper can be accessed here:*
*https://www.sdiarticle4.com/review-history/75563*