



A COMPARATIVE STUDY ON THE PREVALENCE AND RISK OF CARDIOVASCULAR DISEASE AMONG MALE AND FEMALE ADULTS IN A SELECTED COMMUNITY AT MULAKKULAM PANCHAYATH

Jessy Abraham, Dr. A Maria Therese

Associate Professor, Professor

Mercy College Of Nursing, Mtpgrihs

ABSTRACT

Introduction: A study conducted to assess the prevalence and risk of cardiovascular disease among male and female adults in a selected community at Mulakkulam panchayath. The objectives of the study were to assess the prevalence and the level of risk of CVD among male and female adults in order to compare the level of risk among them. **Methodology:** Quantitative research approach and a convenient sampling technique used to select 60 samples. The data collection tool was a self- structured rating scale. **Results:** The findings of the study as follows, regarding the demographic variables, most of the subject belongs to the age group between 56-70 years (66.6%). 50 % of subjects were males. 98.3% were married. Regarding occupation 38.02% were light workers and 81.6% people takes both veg and non- veg foods. Regarding exercise pattern 51.6% follows as an irregular exercise pattern. Almost everyone is suffering from any of the diseases conditions like diabetes hypertension and hyperlipidemia. 78.3% have no history of CV disease. In case of prevalence of CVD 30% are diagnosed with cardiovascular diseases and taking medications. Regarding the risk of cardiovascular disease, Among males 16(53.33%) of the participants had moderate, 9(30%) had mild and 5 (16.66%) had severe risk of cardiovascular disease. In case of females 19(63.33%), 10(33.33%) and 33.33% had mild, moderate and severe risks of cardiovascular disease respectively.

Key words: Prevalence, Risk factors, cardiovascular disease, Adults, Community

INTRODUCTION

BACKGROUND OF THE STUDY

Cardiovascular disease is a major cause of death globally. In India it is expected to be the single most important cause of death in the coming years.^[1] Cardiovascular diseases encompassing coronary artery diseases, angina pectoris, hypertension, myocardial infarction, cerebrovascular disease and congestive heart failure. Patients with CAD can be asymptomatic or develop stable angina and may also evolve to more serious conditions of unstable angina and myocardial infarction.^[2] Cardiovascular disease is estimated that in urban areas the prevalence rate is about 6.4% and 2.5% in rural areas. Approximately 90 new cases per 1 lakh population are diagnosed every year. About 6.6 to 7.2% of all dead in the country and 25% of all deaths in urban areas are attributable to diseases of circulatory system.^[1]

The risk factors can be modifiable or non-modifiable. Modifiable risk factors include elevated serum lipids, elevated BP, tobacco use, physical inactivity, obesity, diabetes, metabolic syndrome, psychological status and elevated homocysteine level. Non-modifiable risk factors include age, gender, ethnicity, family history and genetics.^[1] Despite OF educational efforts, CVD mortality rates have remained high. Increased knowledge of CVD risk factors has been seen as the first step to disease prevention.^[3]

NEED FOR THE STUDY

Cardiovascular disease remains a leading cause of death globally with millions of people affected. It poses a significant burden on individuals, families, and healthcare systems. The incidence of cardiovascular disease is increasing particularly among older adults. This emphasizes the importance of understanding and addressing the risk factors specific to the population. Unhealthy lifestyles such as poor diet, sedentary behavior, smoking and excessive alcohol consumption contribute to the development of cardiovascular disease. Promoting healthy habits and preventable measures is crucial.^[4] Cardiovascular diseases disproportionately affects certain populations including those with lower socioeconomic status and marginalized communities. Addressing health disparity and preventing equitable access to care is essential. Cardiovascular disease can lead to severe complications including heart attacks, stroke, heart failure and reduced quality of life. Early detection prevention and effective management are vital to minimize these consequences.^[5]

STATEMENT OF THE PROBLEM

A comparative study on the prevalence and risk of cardiovascular disease among male and female adults in a selected community at Mulakulam Panchayath.

OBJECTIVES

- To assess the prevalence of cardiovascular disease among male and female adults in a selected community at Mulakkulam panchayath.
- To assess the level of risk of cardiovascular disease among male and female adults in a selected community at Mulakulam panchayath.

- To compare the risk of cardiovascular disease among male and female adults in a selected community at Mulakulam panchayath.

HYPOTHESIS

- There will be significant difference between the prevalence of cardiovascular disease among male and female adults.
- There will be a significant difference between the level of risk of cardiovascular disease among male and female adults.

ASSUMPTION

Male and female adults may have an increased risk for the development of cardiovascular disease.

RESEARCH METHODOLOGY

RESEARCH APPROACH

A quantitative research approach was used to assess the prevalence and risk of cardiovascular disease among male and female adults in a selected community at Mulakkulam panchayat.

RESEARCH DESIGN

Comparative descriptive design⁶ was used to assess the prevalence and risk of cardiovascular disease among male and female adults in a selected community.

VARIABLES

The type of variables are identified in the present study are:

- Research variable
- Demographic variable

Research variables

In this study the research variables is prevalence and risk for cardiovascular diseases.

Demographic variables

Age, Gender, Marital status, Occupation, Dietary pattern, Exercise pattern, Pre-morbid conditions, Diagnosed with heart conditions, Taking medications for CV disease, Family history of CV disease.

SETTING OF THE STUDY

The study is conducted in a selected community at Mulakkulam panchayat. **POPULATION**

The target population consists of male and female adults in a selected community at Mulakkulam Panchayat.

SAMPLE AND SAMPLING TECHNIQUE

Sample consists of 30 males and 30 female's .The samples were selected by convenient sampling method.

SAMPLING CRITERIA

INCLUSION CRITERIA

- Male and female adults in a selected community at Mulakkulam Panchayath.
- Individuals who are willing to participate in the study.

DESCRIPTION OF THE TOOL

The following tools were used to be collecting the data for assessing the prevalence and risk factors of cardiovascular disease.

Section A: Baseline data

Section B: A check list to assess the prevalence and risk of cardiovascular disease. It consists of 20 items that measures the risk of cardiovascular disease among male and female adults.

CATEGORIZATION OF SCORES

- Mild risk-25-50
- Moderate risk-51-75
- Severe risk-76-100

METHOD OF DATA COLLECTION

Obtained permission from the concerned authorities. The study conducted on the month of September 2023. Subjects were selected according to the availability. The investigators conducted home visits to identify the target population prior to the conduction of the study. Investigators explained the process and purpose of survey to the participants and obtained consent from the subjects. Data were collected by individual interview technique using the checklist. It takes around 30 minutes for everyone.

ANALYSIS AND INTERPRETATION OF DATA

Results are discussed under the following section;

Section- A: Distribution of subjects according to their baseline characteristics.

Section- B: Percentage distribution of samples according to the Prevalence of CVD Section-C: Percentage distribution of samples according to the prevailed conditions in CVD

Section-D: Level of risk of cardiovascular disease among male and female adults.

Section- E: Comparison of level of risk of cardiovascular disease among male and female.

SECTION-A: DISTRIBUTION OF SUBJECTS ACCORDING TO THEIR BASELINE CHARACTERISTICS.

Table 1: Frequency and percentage distribution of demographic variables.

SL NO	SAMPLE CHARACTERISTICS	FREQUENCY	PERCENTAGE
1	AGE		
	35-55 years	20	33.3%
	56-70 years	40	66.6%
2	GENDER		
	Male	30	50 %
	Female	30	50 %
	Others	0	0%
3	MARITAL STATUS		
	Married	59	98.3%
	Unmarried	1	1.6%
4	OCCUPATION		
	Sedentary	14	23.3%
	Light	37	38.02%
	Heavy	9	15%
5	DIETARY PATTERN		
	Vegetarian	3	5%
	Non- vegetarian	8	13.3%
	Mixed	49	81.6%
6	EXERCISE PATTERN		
	Regular	9	15%
	Irregular	31	51.6%
	Never	19	31.6%
7	ANY PRE-MORBID CONDITION		
	Diabetes mellitus	25	41.6%
	Hypertension	26	43.3%
	Hyperlipidemia	21	35%
	Others	14	23.3%
8	DIAGNOSED WITH HEART CONDITION		
	Yes	18	30 %
	No	42	70 %
9	TAKING MEDICATIONS FOR CVD		
	Yes	18	30 %
	No	42	70 %
10	FAMILY HISTORY OF CVD		
	Yes	11	18.3%
	No	47	78.3%
	Don't know	2	3.3%

The table illustrates that 66.6% of participants belongs to the age group of 56-70 years, 50% of them were males, 98.3% were married, 38.02% were light workers, 81.6% consumes both vegetarian and non- vegetarian food, 51.6% have irregular exercise pattern, 43.3% have hypertension, 70 % of the participants does not diagnosed with heart conditions, 70 % were not taking medications for CV diseases, 78.3% of participants does not have any family history of CV disease.

SECTION-B: PREVALENCE OF CARDIOVASCULAR DISEASE AMONG MIDDLE AND OLDER ADULTS.

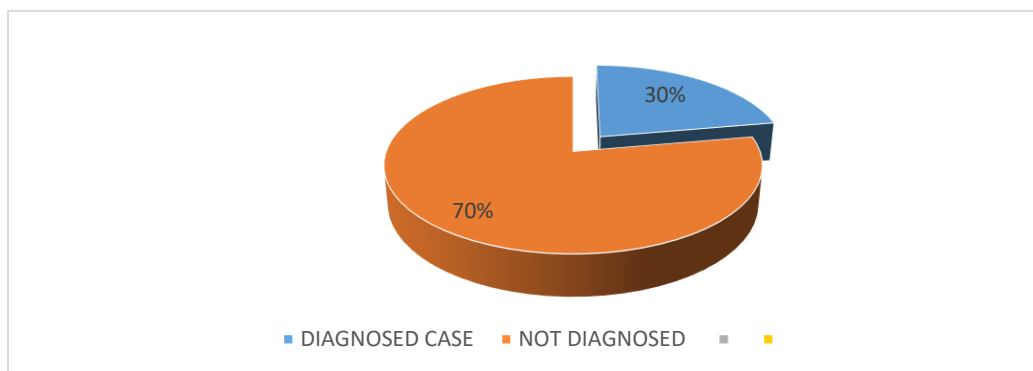


Figure 1: Percentage distribution of the prevalence of cardiovascular disease among middle and older adults

The above figure shows, among 60 subjects (18) 30% are diagnosed with cardiovascular disease, remaining 42(70 %) were not diagnosed with any cardiovascular conditions.

PERCENTAGE DISTRIBUTION OF THE PREVALENCE OF CVD AMONG MALE AND FEMALE CATEGORY

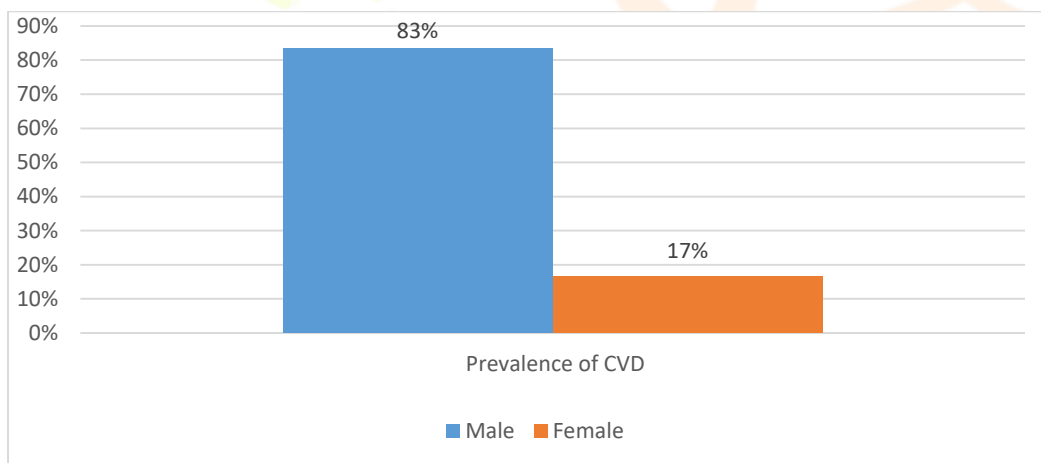


Fig: 2 Percentage distribution of the prevalence of CVD among male and female category

Fig:2 depicts that among 18 adults diagnosed with cardiovascular disease, 83% of them were male.

SECTION-C: PERCENTAGE DISTRIBUTION OF PREVAILED CARDIOVASCULAR DISEASE CONDITIONS AMONG MALE AND FEMALE ADULTS

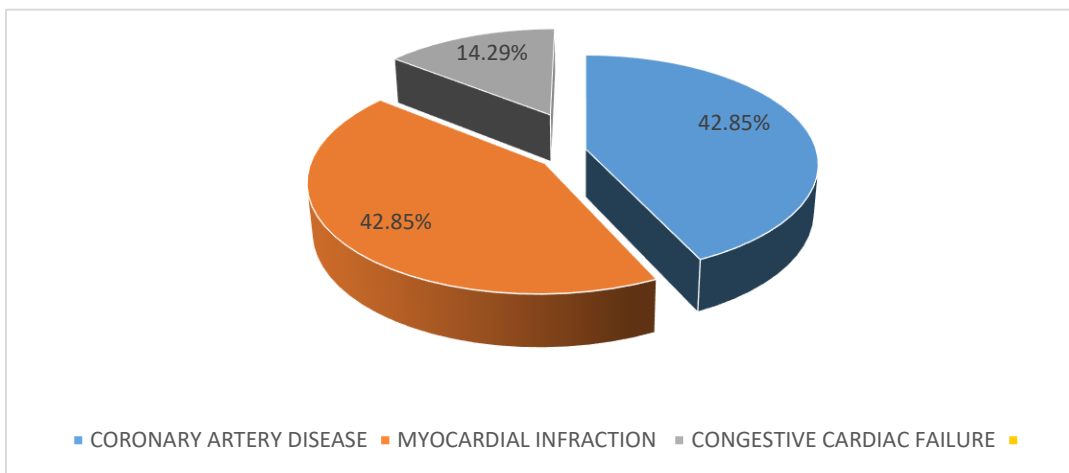


Figure 2: Percentage distribution of the prevailed cardiovascular disease conditions among adults.

The above graph shows that, among 18 subjects who diagnosed with cardiovascular diseases, 42.85% had CAD, 42.85% had myocardial infraction, and 14.29% had Congestive cardiac failure.

SECTION-D: LEVEL OF RISK OF CARDIOVASCULAR DISEASE AMONG MALE AND FEMALE ADULTS

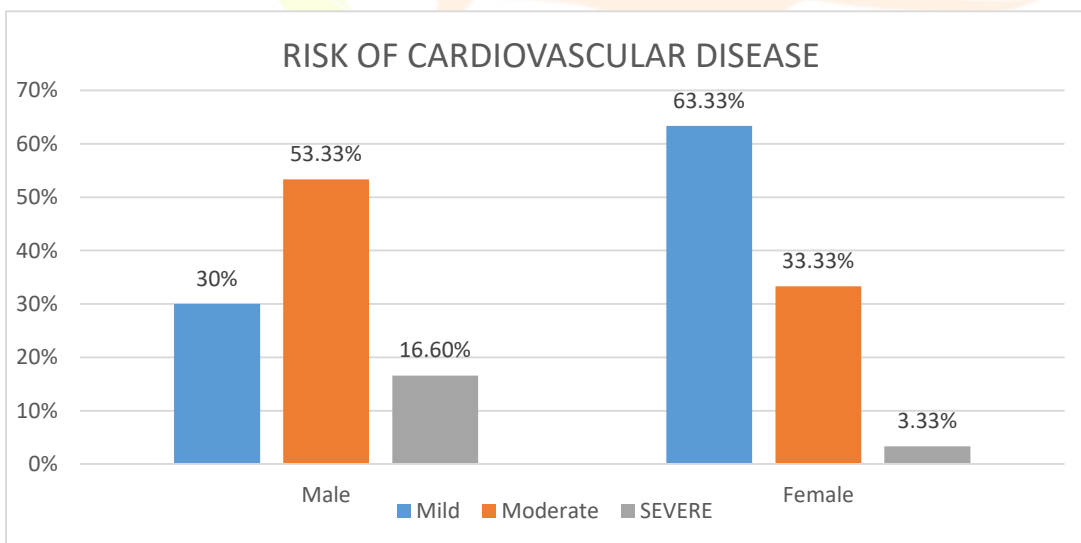


FIGURE-3: Percentage distribution level of risk of cardiovascular disease among male and female category.

The above graph shows the level of risk of cardiovascular disease among male and female. Among males 16(53.33%) of the participants had moderate, 9(30%) had mild and 5 (16.66%) had severe risk of cardiovascular disease. In case of females 19(63.33%), 10(33.33%) and 33.33%) had mild, moderate and severe risks of cardiovascular disease respectively.

SECTION-E: COMPARISON OF LEVEL OF RISK OF CARDIOVASCULAR DISEASE AMONG MALE AND FEMALE.

Table-2: Comparison of level of risk of cardiovascular disease.

CATEGO RY	MEAN	SD	MEAN DIFFERENC E	t-VALUE	LEVEL OF SIGNIFICAN CE
Male	56.43	18.45	4.210	t = 3.3018	0.0016***
Female	42.53	13.83			

***significant

The above table depicts that there is a statistically significant difference exists between the level of risk of cardiovascular disease among male and female adults.

Discussion

The aim of the study was to assess the prevalence and risk of cardiovascular disease among female and male adults in a selected community at Mulakkulam panchayath. Data collection and analysis were carried out based on the objectives of the study.

Assess the prevalence of cardiovascular disease among male and female adults

In the present study the results shows out of 60 participants 30% were diagnosed with cardiovascular disease. Among them 83% of them were male. In that 42.85% had CAD, 42.85% had myocardial infraction, and 14.29% had Congestive cardiac failure.

In the study “Prevalence of CVD in type 2 diabetes a global systematic review” by Ludwig.C Bereza B.G, Elinarson T.R the result shows out of 57 articles overall CVD affected participants are 32.2%, 29.1% have atherosclerosis in 4 studies, 21.2% had CAD,14.4% had heart failure, 14.4% had angina, 10% had MI⁷.

Assess the level of risk of cardiovascular disease among male and female adults

Regarding the level of risk of cardiovascular disease, among males 16(53.33%) of the participants had moderate, 9(30%) had mild and5 (16.66%) had severe risk of cardiovascular disease. In case of females 19(63.33%), 10(33.33%) and 33.33%) had mild, moderate and severe risks of cardiovascular disease respectively.

In a similar study “The relationship between cardiovascular risk factors and knowledge of CVD in African men in the North West province by A.Burger, Carla M.T Fovrie, Aletta.E.Schutte, shows that one-third of the participants fill with the moderate to high CV risk. Only one out of four participants had low CV risk profile⁸.

Compare the risk of cardiovascular disease among male and female adults

In the present study results reveals that there is a statistically significant difference exists between the level of risk of cardiovascular disease among male and female adults.

In the study “The role of gender in the importance of risk factors for CAD by Furshid, Ghrisari, Melika Emami, Hadi Raeshahraki. The results shows that out of 1012 participants, 698 (69%) were female and 314(31%) were male the mean age of males and females was 57.4and 56.4 respectively which was not significantly different ($p=0.23$)⁹.

Conclusion

CVD is a major cause of death globally. In India it is expected to be the single most important cause of death in the coming year. Although many studies have tried to assess specific populations risk for developing CVD, the main purpose of the study is to analyze the prevalence and level of risk of CVD among male and female adults.

Ethical approval- There is no ethical issue.

Conflict of interest "We have no conflict of interest to declare."

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Author contribution\Credit

Author/s testify that all persons designated as authors qualify for authorship and have checked the article for plagiarism. If plagiarism is detected, all authors will be held equally responsible and will bear the resulting sanctions imposed by the journal thereafter.

All authors met all four criteria:

- * Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work
- * Drafting the work or revising it critically for important intellectual content
- * Final approval of the version to be published
- * Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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