IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

A Comparative Study To Assess The Knowledge Regarding Risk Factors Of Cardiovascular Diseases Among Male And Female Residing In Nashik City

Comparative analysis of gender differences in awareness of cardiovascular disease risk factors

[1]Mr. Kunal Dayanand Ghatkar

[1]M.Sc. Nursing (CVTN)

[1]Department of Medical Surgical Nursing (Cardiovascular and Thoracic Nursing)

[1]Matoshri College of Nursing, Eklahare, Nashik, India

Abstract: This study was conducted to assess and compare the knowledge regarding risk factors of cardiovascular diseases among male and female residents of Nashik City. A quantitative comparative research design was adopted, and a total of 100 participants were selected using convenience sampling. Data were collected using a structured questionnaire consisting of socio-demographic variables and a 25-item knowledge assessment tool. The findings revealed varying levels of knowledge among participants, with differences observed between males and females. The study also identified significant associations between knowledge levels and selected demographic variables. The results highlight the need for targeted health education and awareness programs to improve understanding of cardiovascular disease risk factors and promote preventive practices in the community.

Index Terms **- Cardiovascular diseases, Risk factors, Knowledge, Gender comparison, Awareness, Prevention**

I. INTRODUCTION

Cardiovascular diseases (CVDs) are one of the leading causes of mortality and morbidity worldwide, contributing significantly to the global burden of disease. These conditions include coronary artery disease, stroke, hypertension, and other disorders affecting the heart and blood vessels. The increasing prevalence of cardiovascular diseases is largely attributed to rapid urbanization, sedentary lifestyles, unhealthy dietary habits, stress, and substance abuse.

CVD risk factors are broadly classified into modifiable and non-modifiable factors. Non-modifiable factors include age, gender, and family history, which cannot be altered. Modifiable factors such as smoking, alcohol consumption, poor diet, physical inactivity, obesity, and hypertension can be controlled through lifestyle changes and preventive measures. Awareness regarding these risk factors plays a crucial role in reducing the incidence and complications associated with cardiovascular diseases.

In India, the burden of cardiovascular diseases is rising rapidly due to changing lifestyles and lack of awareness among the population. Despite advancements in healthcare, many individuals remain unaware of the risk factors and preventive strategies related to heart diseases. Gender differences also influence knowledge levels, health behaviors, and access to healthcare services, which may further impact disease outcomes.

Therefore, it is essential to assess and compare the knowledge regarding cardiovascular disease risk factors among males and females. This study aims to evaluate the level of awareness among residents of Nashik City and identify gaps in knowledge. The findings of the study will help in planning effective health education programs and promoting preventive practices to reduce the risk of cardiovascular diseases in the community.

3.1Population and Sample

The population of the present study consisted of male and female adults residing in selected areas of Nashik City, Maharashtra. The target population included individuals aged 20 years and above who were available and willing to participate in the study.

The accessible population comprised residents from selected communities of Nashik City. A total sample of 100 participants was selected for the main study using a convenience sampling technique. The sample included both male and female participants to enable comparison of knowledge regarding cardiovascular disease (CVD) risk factors between genders.

For the pilot study, 10 samples (5 males and 5 females) were selected to test the feasibility and reliability of the research tool. Participants with diagnosed cardiovascular diseases and those unable to comprehend the questionnaire were excluded from the study.

The selected sample was considered appropriate to assess the knowledge level and to identify gender-based differences in awareness regarding cardiovascular disease risk factors.

3.2 Data and Sources of Data

For the present study, primary data were collected from the participants residing in selected areas of Nashik City. The data collection was carried out using a structured questionnaire designed to assess knowledge regarding risk factors of cardiovascular diseases (CVD).

The tool consisted of two sections. Section A included socio-demographic variables such as age, gender, education, occupation, family history of heart disease, and blood pressure status. Section B comprised a 25-item structured knowledge questionnaire with true/false responses to evaluate the participant's awareness of cardiovascular disease risk factors.

Data were collected directly from the respondents through personal interaction after obtaining informed consent. The participants were given adequate time to respond to the questionnaire, and necessary clarification was provided wherever required to ensure accurate responses.

The data collection process was conducted over a specified period, ensuring completeness and reliability of the information gathered for analysis.

3.3 Theoretical framework

The present study is based on the **Modified Health Belief Model (HBM)**, which explains how individual beliefs and perceptions influence health-related behaviors. This framework helps in understanding how knowledge and awareness regarding cardiovascular disease (CVD) risk factors differ among male and female participants.

The variables of the study include both **independent and dependent variables**.

Independent Variables:

These include socio-demographic characteristics such as age, gender, education, occupation, family history of cardiovascular disease, and blood pressure status. These variables may influence the level of knowledge and awareness regarding CVD risk factors.

Dependent Variable:

The dependent variable of the study is the **knowledge level regarding cardiovascular disease risk factors**. This was measured using a structured questionnaire and categorized into poor, moderate, and good knowledge levels based on the participant's score.

According to the Health Belief Model, an individual's health behavior is influenced by several components such as:

- **Perceived Susceptibility:** Belief about the likelihood of developing cardiovascular disease
- **Perceived Severity:** Understanding the seriousness of cardiovascular conditions
- **Perceived Benefits:** Belief in the effectiveness of preventive measures
- **Perceived Barriers:** Challenges in adopting healthy behaviors
- **Cues to Action:** External factors such as media, healthcare advice, or family history
- **Self-Efficacy:** Confidence in the ability to take preventive actions

This theoretical framework supports the study in identifying how these factors contribute to the knowledge level and awareness among males and females. It also helps in understanding the relationship between demographic variables and knowledge regarding cardiovascular disease risk factors.

I. RESEARCH METHODOLOGY

The methodology section outlines the plan and methods used to conduct the study. It includes the population, sample, data sources, variables, and analytical framework. The details are as follows;

3.1Population and Sample

The population of the present study consisted of male and female adults residing in selected areas of Nashik City, Maharashtra. The target population included individuals aged 20 years and above. The accessible population comprised residents who were available during the period of data collection. A total sample of 100 participants was selected using a convenience sampling technique. The sample included both male and female participants to compare knowledge regarding cardiovascular disease (CVD) risk factors.

For the pilot study, 10 participants (5 males and 5 females) were selected to test the feasibility and reliability of the research tool. Individuals diagnosed with cardiovascular diseases and those unable to understand the questionnaire were excluded from the study.

3.2 Data and Sources of Data

The present study utilized **primary data** collected directly from participants. Data were gathered using a structured questionnaire designed to assess knowledge regarding cardiovascular disease risk factors.

The tool consisted of two sections:

- **Section A:** Socio-demographic variables including age, gender, education, occupation, family history of heart disease, and blood pressure status.
- **Section B:** A 25-item structured knowledge questionnaire with true/false responses.

Data were collected through direct interaction with participants after obtaining informed consent. Adequate time and clarification were provided to ensure accurate responses. The data collection was carried out over a specified period to ensure completeness and reliability.

3.3 Theoretical framework

The present study is based on the **Modified Health Belief Model (HBM)**, which explains how individual beliefs and perceptions influence health-related behaviors, particularly in the prevention of cardiovascular diseases.

The variables of the study include **independent and dependent variables**.

Dependent Variable:

The dependent variable of the study is the **knowledge regarding risk factors of cardiovascular diseases** among male and female participants. This knowledge was assessed using a structured questionnaire and categorized into levels such as poor, average, and good based on the obtained scores.

Independent Variables:

The independent variables include selected socio-demographic factors such as age, gender, education, occupation, family history of heart disease, and blood pressure status.

According to the Health Belief Model, the following components influence knowledge and preventive behavior:

- **Perceived Susceptibility:** Individual belief about the risk of developing cardiovascular disease
- **Perceived Severity:** Understanding the seriousness of cardiovascular conditions
- **Perceived Benefits:** Belief in the effectiveness of preventive actions
- **Perceived Barriers:** Obstacles in adopting healthy lifestyle practices
- **Cues to Action:** Factors that trigger awareness such as health campaigns, media, or advice from healthcare professionals
- **Self-Efficacy:** Confidence in performing preventive health behaviors

This framework helps in understanding how these factors affect the knowledge level of individuals and supports comparison between male and female participants.

3.4Statistical tools and econometric models

This section describes the statistical methods used to analyze the collected data and draw meaningful conclusions regarding the knowledge of cardiovascular disease (CVD) risk factors among male and female participants.

The data obtained from 100 samples were coded, tabulated, and analyzed using both descriptive and inferential statistics.

3.4.1 Descriptive Statistics

Descriptive statistics were used to summarize and present the data systematically:

- **Frequency and Percentage:**

Used to describe socio-demographic variables such as age, gender, education, occupation, family history of heart disease, and blood pressure status.

- **Mean and Standard Deviation:**

Used to assess the overall knowledge scores of participants regarding cardiovascular disease risk factors.

These statistics helped in presenting the data under:

- Section I: Distribution of samples according to socio-demographic variables
- Section III: Distribution of knowledge scores

3.4.2 Inferential Statistics

Inferential statistics were applied to test the association and comparison between variables:

- **Chi-square test (χ^2):**

Used to determine the association between knowledge levels and selected socio-demographic variables (Section II).

- **Independent t-test:**

Used to compare the mean knowledge scores between male and female participants (Section IV).

A **p-value < 0.05** was considered statistically significant.

3.4.3 Knowledge Scoring

The knowledge of participants was assessed using a structured questionnaire consisting of 25 items.

- Each correct answer was given **1 mark**
- Each incorrect answer was given **0 mark**
- Total score ranged from **0 to 25**

The knowledge level was categorized as:

- **Poor Knowledge:** 0–8
- **Average Knowledge:** 9–16
- **Good Knowledge:** 17–25

3.4.4 Reliability of the Tool

The reliability of the tool was established using appropriate statistical methods. The tool was found to be reliable and suitable for assessing knowledge regarding cardiovascular disease risk factors.

3.4.5 Data Presentation

The analyzed data were presented in the form of:

- Tables
- Bar diagrams
- Pie charts

These presentations helped in better understanding and interpretation of the findings.

IV. RESULTS AND DISCUSSION

4.1 Results of Descriptive Statics of Study Variables

Table 4.1: Distribution of Participants According to Socio-Demographic Variables (N = 100)

Variable	Category	Frequency	Percentage (%)
Age	20–30 years	20	20%
	31–40 years	28	28%
	41–50 years	31	31%
	Above 50 years	21	21%
Gender	Male	50	50%
	Female	50	50%
Education	No schooling	29	29%
	Primary	19	19%
	Secondary	30	30%
	Graduate & Above	22	22%
Occupation	Unemployed	21	21%
	Medical field	29	29%
	Non-medical field	29	29%
	Others	21	21%
Family History of Heart Disease	Yes	54	54%
	No	46	46%
Blood Pressure Status	Yes	38	38%
	No	25	25%
	Not sure	37	37%

Table 4.1 shows the distribution of participants according to socio-demographic variables. The study included 100 participants, with equal representation of males (50%) and females (50%).

The majority of participants (31%) belonged to the **41–50 years** age group, followed by 31–40 years (28%), above 50 years (21%), and 20–30 years (20%).

Regarding education, most participants had **secondary education (30%)**, followed by no schooling (29%), graduate level (22%), and primary education (19%).

In terms of occupation, participants were almost equally distributed between the **medical field (29%)** and **non-medical field (29%)**, while 21% were unemployed and 21% belonged to other occupations.

More than half of the participants (54%) reported a **family history of heart disease**, indicating a higher risk background in the study population.

Regarding blood pressure status, 38% participants reported having **high blood pressure**, while 37% were not sure about their status, highlighting a gap in health awareness and screening practices.

These findings provide important background characteristics that may influence knowledge regarding cardiovascular disease risk factors.

4.2 Distribution of Knowledge Scores

Fig. 4.6 : Graph Representing Mean of Knowledge Scores by Gender

N=100

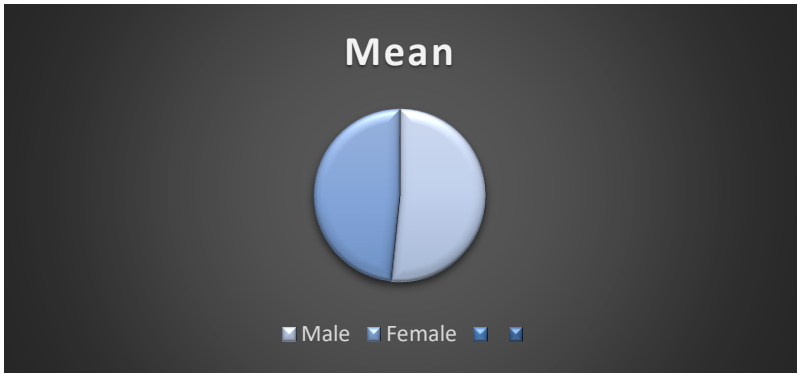

Table 4.2: Mean and Standard Deviation of Knowledge Scores (N = 100)

Variable	Minimum	Maximum	Mean	Standard Deviation
Knowledge Score	0	25	12.88	2.27

(Mean calculated from male and female combined data)

Table 4.2 shows the mean knowledge score of participants was **12.88**, with a standard deviation of approximately **2.27**, indicating moderate variability in knowledge levels.
The scores suggest that most participants had **average knowledge** regarding cardiovascular disease risk factors, with few achieving very high or very low scores.

4.3 Level of Knowledge

Fig. 4.7 : Graph Representing Distribution of Knowledge Scores on Cardiovascular Disease Risk Factors by Gender

N=100

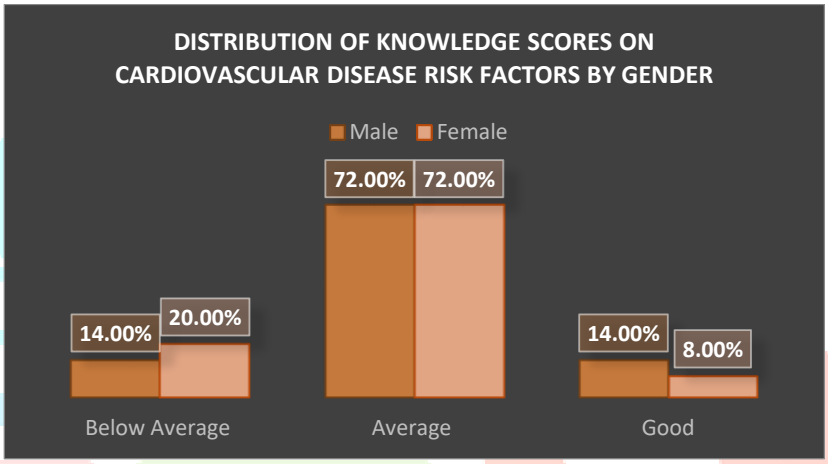

Table 4.3: Distribution of Knowledge Levels (N = 100)

Knowledge Level	Score Range	Frequency	Percentage (%)
Poor	0–8	17	17%
Average	9–16	72	72%
Good	17–25	11	11%

Table 4.3 shows the majority of participants (72%) had **average knowledge** regarding cardiovascular disease risk factors. A smaller proportion (17%) had poor knowledge, while only 11% demonstrated good knowledge.
This indicates that although basic awareness exists, there is still a need for improving knowledge and awareness regarding cardiovascular disease prevention.

II. Acknowledgment

The author expresses sincere gratitude to all those who contributed to the successful completion of this study. Special thanks are extended to the management and faculty of Matoshri College of Nursing, Eklhare, for their continuous support and guidance. The author is also thankful to all participants who willingly took part in the study and provided valuable information. Their cooperation made this research possible.

REFERENCES

[1] Better Health Channel. Heart disease risk factors. Available from: https://www.betterhealth.vic.gov.au/health/conditionsandtreatments/heart-disease-risk-factors
[2] Ada Health. Cardiovascular Disease Risk Factors. Available from: https://ada.com/cardiovascular-disease-risk-factors/
[3] World Health Organization. Cardiovascular diseases (CVDs). Available from: https://www.who.int/health-topics/cardiovascular-diseases
[4] World Health Organization. Cardiovascular diseases (CVDs). 2021. Available from: https://www.who.int/news-room/fact-sheets/detail/cardiovascular-diseases-(cvds)
[5] Prabhakaran D, Jeemon P, Roy A. Cardiovascular diseases in India: Current epidemiology and future directions. Circulation. 2016;133(16):1605–1620.
[6] Institute for Health Metrics and Evaluation. Global Burden of Disease Study 2019 Results. Seattle, WA: IHME; 2020.
[7] Huffman MD, Mohan V, Prabhakaran D, et al. The case for prevention of cardiovascular disease in India. Lancet. 2011;377(9768):588–601.
[8] Gupta R, Gaur K, Ram CVS. Emerging trends in hypertension epidemiology in India. J Hum Hypertens. 2019;33(8):575–587.
[9] Arnett DK, Blumenthal RS, Albert MA, et al. 2019 ACC/AHA guideline on the primary prevention of cardiovascular disease. J Am Coll Cardiol. 2019;74(10):e177–e232.
[10] Yadav K, Krishnan A. Changing patterns of diet, physical activity and obesity among populations in North India. Obes Rev. 2008;9(5):400–408.
[11] Joshi R, Jan S, Wu Y, MacMahon S. Global inequalities in access to cardiovascular health care. J Am Coll Cardiol. 2008;52(23):1817–1825.
[12] Geldsetzer P, Manne-Goehler J, Marcus ME, et al. Hypertension care in low- and middle-income countries. Lancet. 2019;394(10199):652–662.
[13] Anchala R, Kannuri NK, Pant H, et al. Hypertension in India: A systematic review. J Hypertens. 2014;32(6):1170–1177.
[14] Chaturvedi N, Rai SK. Gender and health: An Indian perspective. Indian J Public Health. 2017;61(3):169–170.
[15] Ministry of Health and Family Welfare. NPCDCS Operational Guidelines. Government of India; 2013.
[16] World Health Organization. Global action plan for NCD prevention 2013–2020. Geneva: WHO; 2013.
[17] Rural Health Information Hub. Health Belief Model. 2023. Available from: https://www.ruralhealthinfo.org
[18] Singh S, Chakraverty A, Shankar R. Risk assessment of cardiovascular disease among working men and women. Res J Family Community Sci. 2014;2(4):10–14.
[19] Muhammad T, Pai M, Ansari S. Gender differences in cardiovascular diseases among older adults in India. Dialogues in Health. 2023.
[20] Kodali NK, Bhat LD, Phillip NE, et al. Prevalence of cardiovascular diseases among adults in India. Indian Heart Journal. 2022;75(1):20–27.