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RESEARCH ARTICLE

A Descriptive Study To Assess The Knowledge Regarding Cardiovascular Disease Risk Factors Among High Risk Groups In Selected Urban Communities

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Abstract: ***BACKGROUND OF STUDY***: Cardiovascular diseases (CVDs) are among the leading causes of morbidity and mortality worldwide. CVDs include conditions such as coronary artery disease, stroke, hypertension, and heart failure. These diseases are largely influenced by modifiable risk factors such as smoking, unhealthy diet, lack of physical activity, obesity, diabetes mellitus, and stress. According to the World Health Organization, cardiovascular diseases account for approximately 17.9 million deaths annually, representing about 31% of all global deaths. In India, cardiovascular diseases are responsible for nearly 28% of all deaths, making them a major public health concern.***AIM***: To assess the knowledge regarding cardiovascular disease risk factors among high-risk groups in selected urban communities. ***MATERIALS AND METHODS***: In this study a descriptive research design was utilized. Through a non-probability purposive sampling technique, 60 participants aged 30 years and above possessing at least one major CVD risk factor were recruited from selected urban communities. Data were collected using a validated 25-item structured knowledge questionnaire covering behavioral, modifiable, biological, and non-modifiable risk factors alongside cardiovascular clinical symptoms.***RESULT***: The data analysis demonstrated that a majority of the participants possessed an average level of knowledge (58.3%, n=35), while 25.0% (n=15) demonstrated poor knowledge, and only 16.7% (n=10) possessed good knowledge. The mean knowledge score was 12.42 ± 3.65 out of a maximum of 25. Inferential statistical analysis using the Pearson Chi-square test revealed no statistically significant association between the overall knowledge scores and selected socio-demographic variables ($p > 0.05$).

Keywords: Cardiovascular Disease, Risk Factors, High-Risk Group, Knowledge Level, Urban Community, Nursing Health Education.

INTRODUCTION

Cardiovascular diseases (CVDs) are one of the leading causes of morbidity and mortality worldwide. CVDs include conditions such as coronary artery disease, hypertension, stroke, and heart failure. These diseases are mainly caused by modifiable risk factors such as smoking, unhealthy diet, physical inactivity, obesity, hypertension, diabetes mellitus, and stress.

Urbanization has led to significant lifestyle changes including sedentary habits, increased consumption of processed foods, and high levels of stress. These factors have increased the prevalence of cardiovascular risk factors among urban populations.

Individuals who already have conditions such as hypertension, diabetes mellitus, obesity, or smoking habits are considered high-risk groups for developing cardiovascular diseases. Adequate knowledge about these risk factors plays an important role in preventing complications and promoting healthy lifestyle modifications.

Nurses play a crucial role in health education, early identification of risk factors, and community-based prevention strategies. Assessing the knowledge of high-risk individuals regarding cardiovascular disease risk factors will help in identifying knowledge gaps and planning appropriate educational interventions.

Therefore, the present study aims to assess the knowledge regarding cardiovascular disease risk factors among high-risk groups in selected urban communities.

Research Approach and Design:
A quantitative descriptive research approach was selected to measure the research variables. A descriptive research design was used to examine and detail the knowledge profiles of the sample population without experimental manipulation.

Research Setting and Population:
The study was conducted within designated urban community zones of Panvel. The target population consisted of adults aged 30 years and above meeting the criteria for high-risk categorization and residing within these geographical sectors.

Sample, Sample Size, and Sampling Technique:
The sample size was limited to 60 participants matching the inclusion framework. A non-probability purposive

sampling technique was used to select participants who possessed the specified cardiovascular risk profiles.

Tool for Data Collection:
The structured data collection tool was organized into two distinct components:

Section A: Socio-Demographic Profile: Capturing baseline participant data across 10 structured items.

Section B: Structured Knowledge Questionnaire: A comprehensive 25-item structured checklist assessing modifiable behavioral risks, physiological impacts, biological mechanisms, and acute cardiovascular symptoms. Each correct answer was scored with 1 mark, while incorrect or "Don't Know" selections received 0 marks. Total possible scores ranged from 0 to 25, classified into: Poor (0–8), Average (9–16), and Good (17–25) knowledge levels.

Data collection process:
To conduct research study formal permission was obtained from the college authority and the ethical committee. After accepting the permission the following steps were taken up:

• Step 1-Researchers introduce themselves and explain the purpose of the research study to the subjects.
• Step 2 – Administration of Socio Demographic variables and structured checklist assessing modifiable behavioral risks, physiological impacts, biological mechanisms, and acute cardiovascular symptoms.
• Step 3 - Collection of data.
• Step 4 - Analysis of collected data.

DATA ANALYSIS AND INTERPRETATION
This section outlines the methods and statistical techniques used in the study to analyse the collected data, followed by a detailed interpretation of the findings in relation to the research objectives.

SECTION; 1
This section deals with Analysis of Socio-demographic distribution of the High risk clients participant. It is analysed and presented in the form of frequency and percentage tables.

SECTION-II
In this section Analysis and interpretation of data is done in order to find out association between the observed knowledge scores and selected participant socio-demographic variables.

SECTION-I

Table 1

Demographic Characteristic	Frequency (n)	Percentage (%)
Age in Completed Years		
30–39 Years	15	25.0%
40–49 Years	20	33.3%
50–59 Years	15	25.0%
60 Years and Above	10	16.7%
Gender		
Male	32	53.3%
Female	28	46.7%
Educational Status		
No Formal Education	8	13.3%
Primary / Secondary School	22	36.7%
Higher Secondary (12th Standard)	18	30.0%
Graduate / Post-graduate	12	20.0%
Primary Occupation		
Sedentary Job (Desk job/Shopkeeping)	25	41.7%
Active Job (Manual labor/Field work)	14	23.3%
Homemaker	13	21.7%
Unemployed / Retired	8	13.3%
Pre-existing High-Risk Profiles		
Hypertension (High BP)	24	40.0%
Diabetes Mellitus	18	30.0%
Clinical Obesity / Overweight	12	20.0%
Active Tobacco Usage / Smoking	6	10.0%

Table .1 depicts the demographic characteristics of high Risk Clients. Age: 15 (25%) were aged 30–39 Years, 20 (33.3%) were 40–49 Years ,15 (25.0%) were 50–59 Years and 10 (16.7%) 60 years and above. Gender: 32 males (53.3%) and 28 females (46.7%) Education: 8 No Formal Education (13.3%), 22 Primary / Secondary School (36.7%) 18 Higher Secondary (12th Standard) (30.0%) 12 Graduate / Post-graduate 20.0%. Primary Occupation: 25 Sedentary Job (Desk job/Shopkeeping) (41.7%), 14 Active Job (Manual labor/Field work) (23.3%),13 Homemaker (21.7%) , 8 Unemployed / Retired (13.3%) and Pre-existing High-Risk Profiles: 24 Hypertension (High BP)(40.0%), 18 Diabetes Mellitus (30.0%), 12 Clinical Obesity / Overweight (20.0%) and 6 Active Tobacco Usage / Smoking (10.0%.)

Table 2: Categorized Knowledge Levels Regarding CVD Risk Factors among Participants (N = 60)

Knowledge Category (Score Range)	Frequency (n)	Percentage (%)
Poor Knowledge (0 – 8 Marks)	15	25.0%
Average Knowledge (9 – 16 Marks)	35	58.3%
Good Knowledge (17 – 25 Marks)	10	16.7%
Total	60	100.0%

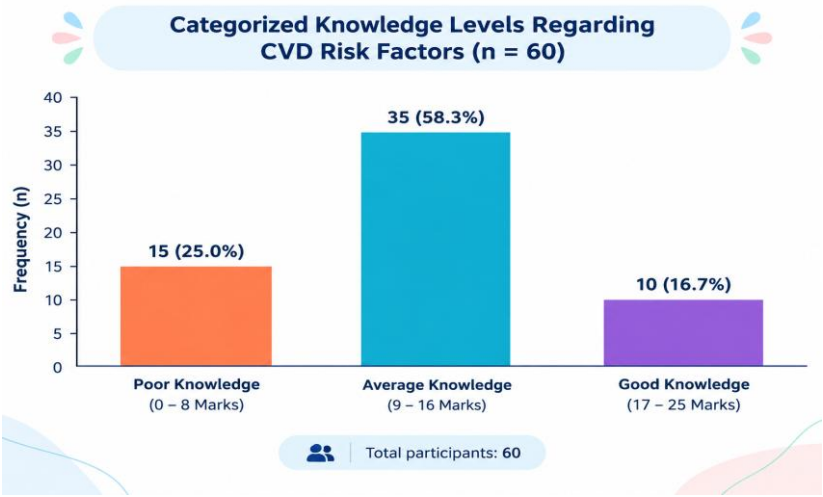


Table 2 illustrates knowledge assessment showed that 15 clients (25%) had poor knowledge, 35 clients (58.3%) had average knowledge and 10 participants (16.7%) had good knowledge. This indicates that the majority of Client (58.3%) had average knowledge regarding cardiovascular disease (CVD) risk factors.

Table 3 displays the analysis of association between demographic variables and knowledge scores revealed no statistically significant association at the 0.05 level. Variables such as age (p=0.633), Gender (p=0.554),Educational Status (p=0.250), Pre-existing Risk Profile(p=0.528) showed no significant relationship with knowledge scores. This indicates that knowledge levels were similar across different demographic categories. None of the demographic variables were associated with knowledge.

Table 3: Chi-Square Association Analysis Between Knowledge Levels and Key Demographic Variables

Socio-Demographic Variable	Pearson Chi-Square (\(\chi ^{2}\))	Degrees of Freedom (\(df\))	Asymptotic \(p\)-value	Statistical Significance (Not Significant (\(p > 0.05\)))
Age	4.32	6	0.633	No
Gender	1.18	2	0.554	No
Educational Status	7.84	6	0.250	No
Pre-existing Risk Profile	5.12	6	0.528	No

DISCUSSION AND CONCLUSION

The empirical findings of the present study indicate that an overwhelming majority of high-risk urban residents possess an average (58.3%) to poor (25.0%) understanding of core cardiovascular risk profiles. The collective mean score (12.42 ± 3.65 out of 25) underscores substantial deficiencies in health literacy. These findings align closely with global public health literature, including studies by Smith et al. (2020) and Gupta et al. (2019), which noted persistent knowledge gaps regarding lifestyle-driven metabolic conditions among urban adults.

Crucially, the lack of a statistically significant association between demographic variables and knowledge scores confirms that these knowledge deficits are widespread across all sub-cohorts, regardless of age, gender, or educational attainment. This uniform lack of deep understanding emphasizes the need for broad, systematic public health communication strategies rather than narrow, hyper-targeted campaigns.

CONCLUSION

This study demonstrates a compelling public health imperative: urban adults facing high personal risk for cardiovascular illness display insufficient knowledge regarding the chronic systemic effects and potential complications of their conditions. Community-based nurse-led health education, structured screening programs, and accessible lifestyle interventions are essential to bridge these gaps, foster positive preventive health behaviors, and reduce preventable cardiovascular morbidity and mortality.

SOURCE OF FUNDING

None

CONFLICT OF INTEREST

None.

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