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Research Article

# A Study to Assess the Risk Factors for Coronary Artery Disease in Employees of Selected Educational Institutes of Navsari City, in a View to Prepare and Validate a SIM

**Rohan Shivaji Savlajkar**

Department of Medical Surgical Nursing, Government College of Nursing, TTI Building, Near CHC, Fort Area, Moti Daman, U.T of DNH&DD, Daman and Diu, India

## Abstract

**Background:** Coronary artery disease (CAD) significantly lowers quality of life. A complex and long-lasting inflammatory process that eventually results in fibrous atherosclerotic plaque can be accelerated or modified by risk factors. Up to 2030, this illness will continue to be the world's most serious in terms of mortality, morbidity, disability, and economic loss. It is endemic in underdeveloped nations. By minimizing modifiable risk factors, the identification of risk variables offers a means for lowering the chance of developing CAD, and better treatment options are made thanks to more precise assessment of overall risk status.

**Methods:** To determine the risk factors for CAD, a descriptive exploratory survey approach was utilized in this study. The investigation was carried out in two Navsari city educational institutions of choice. The sample size was 60 in total. Since the personnel were chosen at random using a lottery system, the study was based on a straightforward random sampling procedure.

**Results:** Conclusions based on data analysis. Most instructors (62% of them) had a low risk, many (28% of them) a moderate risk, and none had a high risk of developing CAD. A typical percentage of the sample (43.33%) had an abnormal body mass index. Only 10% of male instructors have a normal waist-hip ratio (WHR), compared to 23.33% who have an unhealthy ratio. Maximum (35%) of females had abnormal and normal WHR (31.67%), respectively. Most teachers (75%) had normal cholesterol, while (25%) had levels above average.

**Conclusion:** Years of experience and educational attainment were found to be significantly correlated with risk variables for CAD.

**Keywords:** Assessment, coronary artery disease, educational institute, employees, risk factor

## Introduction

Coronary artery disease (CAD) and vascular (blood vessel) disease are two examples of the disorders that fall under the umbrella term of cardiovascular disease. Heart disease brought on by coronary artery blockage, which reduces blood flow to the heart muscles, is referred to as CAD.[1]

The leading global cause of mortality and morbidity is cardiovascular disease (CVD). Both rich and developing nations continue to add to the aggregate load, although the two have quite different growth patterns. By 2020, it is anticipated that coronary heart disease (CHD), which accounts for 54.1% of all CVD fatalities in India, will claim the lives of about 2.6 million people. In addition, it has been demonstrated that CHD strikes Indians earlier than it does those in Western nations, by at least a decade or two. Increased CVD burden in India is most likely caused by demographic and health changes,

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**Address for Correspondence:**
Rohan Shivaji Savlajkar, Department of Medical Surgical Nursing, Government College of Nursing, TTI Building, Near CHC, Fort Area, Moti Daman, U.T of DNH&DD - 396 220, Daman and Diu, India. E-mail: rohansavlajkar@gmail.com

gene-environment interactions, and early life effects of fetal malnutrition. The burden of CVD and related risk factors is on the rise in India, but we do not yet have a surveillance system to track these developments.[2]

The tremendous load and relatively specific characteristics of atherosclerosis in India must be taken into account before discussing cardiology in the nation. According to reports, cardiovascular disorders are now India's leading cause of mortality, surpassing infectious diseases. According to a study from Chennai, the incidence of cardiovascular disease is 50% to 400% greater in Asian Indians than it is in people of other ethnic backgrounds, which is alarming information about atherosclerosis in the nation.[3]

Alarming Statistics from India: According to current estimates, the global burden of cardiovascular disease will be highest in India. In India, coronary heart disease is the primary cause of one in five fatalities. It will be responsible for one-third of all fatalities by the year 2030. Sadly, a lot of these Indians will pass away at a young age. In India, heart disease develops 10–15 years earlier than it does in the west. In India, there are reportedly 45 million people with CAD. According to the International Diabetes Federation, India has at least 50.8 million diabetics, which is the highest recorded number from any country in the world. Diabetes affects 6–8% of individuals in urban areas and 2–3% of persons in rural areas. In India, diabetes tends to develop at a relatively young age of 45, or around 10 years sooner than in the West. Diabetes affects 6–8% of individuals in urban areas and 2–3% of persons in rural areas. Over the past 50 years, there seems to have been a continuous rise in the prevalence of hypertension, more so in urban than in rural areas. In urban and rural subjects, hypertension affects 25–30% of the population.[4]

A random sample of the population of Jaipur was examined as part of a study to evaluate the prevalence of coronary heart disease and coronary risk factors in an urban population of Rajasthan.[5]

In a study that was conducted to determine the prevalence of adequate and of optimal control of serum low-density lipoprotein cholesterol in an academic nursing home, the increased low-density lipoprotein (LDL) cholesterol was 100 mg/dL or higher in very high-risk persons with CAD, ischemic stroke, peripheral arterial disease, diabetes mellitus, or 2+ risk factors and a 10-year risk for CAD >20%; 130 mg/dL or higher in moderately high-risk persons with 2 risk factors.[6]

A research entitled "Social class and CAD in an urban population of North India in the Indian Lifestyle and Heart Study" was carried out with the objective of determining the extent to which there is a correlation between social class and the prevalence of coronary risk factors and CAD.[7]

### Objectives of the study

The objectives of this study were as follows:

1. To assess the risk factors of CAD among employees in selected educational institutes of Navsari city.
2. To associate the selected background variables with the risk factors of CAD among employees in selected institutes.
3. To prepare and validate a self-instructional module on awareness of risk factors of CAD.

## Materials and Methods

### Research approach

This study was quantitative research approach.

### Research design

This study was descriptive exploratory research design.

### Setting of the study

The study was selected educational institutes of Navsari city.

### Population

This study was teachers between the age group of 40–60 years.

### Sample size

The sample size was 60 samples.

### Sampling technique

This study was simple random sampling technique.

### Criteria for sample selection

The criteria for the selection of samples for the study were as follows.

### Inclusion criteria for sampling

The following criteria were included in the study:

- Employees between the age group of 40–60 years.
- Employees those who are teachers in the educational institutes.
- Selected educational institutes' means primary, secondary schools, and higher secondary colleges.

### Exclusion criteria for sampling

The following criteria were excluded from the study:

- Employees not willing to participate in the study.
- Employees those who all are having CAD.

### Delimitations

- The study is confined to employees between the age group of 40–60 years.
- The study is confined to employees not having history of CAD.

### Assumptions

- Employees between the age group of 40–60 years will have some risk factors of CAD.

### Organization of the findings

The data collected were organized and presented under the following sections:

- Section I: Description of baseline sample characteristics
- Section II: Findings of high-risk factors assessment for CAD.
- Section III: Other findings.

### Section I: Description of baseline sample characteristics

The data presented in Table 1 indicates that average number of teachers were of B. Ed., qualification (45%). Maximum of them (75%) had income of 20001–30,000. The sample size contains majority (96.7%) with Hindu religion. Many of the teachers were married (95%) and had nuclear families (71.7%); most of them (50%) had an experience of 11–20 years. Majority of them (41.67%) had reading as most preferred leisure time activity.

### Section II: Findings of assessment of high-risk factors for CAD

This section deals with the analysis and interpretation of the data related to the high-risk factors of CAD such as non-modifiable factors such as age, gender, and family history and modifiable factors such as hypertension, diabetes mellitus, high blood cholesterol, diet, stress, alcohol, cigarette smoking, physical inactivity, associated details with it, and findings of anthropometric and physiological measurement.

The data presented in Table 2 indicate that maximum number of teachers had mild risk factors (62%), many of them had moderate risk factors (28%) and none of them had severe risk factors and 6 of them (10%) did not have any risk factors.

The data presented in Table 3 show that average number of teachers having family history of acute and chronic medical condition (46.47 %), maximum of them (90%) are not having high blood sugar level. Minimum of them have investigated serum cholesterol level (18.33%), there was an equal (50%) consumption of vegetarian and non-vegetarian diet.

Many of them (58.33%) experience work-related stress most often in their life. Maximum of them (93.33%) do not take alcohol and alcoholic beverages. Many of them are performing exercise (63.33%) in their daily life. Maximum of them (98.33%) are not smoking cigarette.

The data presented in Table 4 indicate that maximum number of teachers was having a normal body mass index (56.67%) and remaining was having abnormal (43.33%). Male teachers (23.33%) were having abnormal waist-hip ratio (WHR), whereas only 10% are having normal ratio. For female, maximum (35%) were having WHR abnormal and (31.67%) of them has normal WHR.

The data presented in Table 5 indicate that maximum of teachers (83.33%) were having more than normal pulse and (16.67%) were having normal pulse. Majority (83.33%) of teachers was having a normal systolic blood pressure (SBP) and only (16.67%) were having more than normal SBP.

Maximum (75%) of teachers were having normal cholesterol and (25%) were having more than normal. Many of them are

**Table 1: Analysis and interpretation of baseline characteristics**

| S. No. | Baseline characteristics | Frequency (*f*) | Percentage (%) |
|---|---|---|---|
| 1 | Educational Status | | |
| 1.1 | D. Ed., | 26 | 43.3 |
| 1.2 | B. Ed., | 27 | 45 |
| 1.3 | M. Ed., | 7 | 11.7 |
| 1.4 | Ph. D., | 0 | 0 |
| 2 | Monthly Income in Rs. | | |
| 2.1 | 5,000–10,000 | 5 | 8.3 |
| 2.2 | 10,001–20,000 | 3 | 5 |
| 2.3 | 20,001–30,000 | 45 | 75 |
| 2.4 | 30,0001 and above | 7 | 11.7 |
| 3 | Years of experience in teaching profession | | |
| 3.1 | 0–10 years | 4 | 6.67 |
| 3.2 | 11–20 years | 30 | 50 |
| 3.3 | 21–30 years | 23 | 38.33 |
| 3.4 | 31 and above | 3 | 5 |
| 4 | Marital status | | |
| 4.1 | Unmarried | 1 | 1.7 |
| 4.2 | Married | 57 | 95 |
| 4.3 | Widow/Widower | 2 | 3.4 |
| 4.4 | Divorced | 0 | 0 |
| 5 | Type of family | | |
| 5.1 | Nuclear | 43 | 71.7 |
| 5.2 | Joint | 17 | 28.3 |
| 6 | Religion | | |
| 6.1 | Hindu | 58 | 96.7 |
| 6.2 | Muslim | 1 | 1.7 |
| 6.3 | Christian | 1 | 1.7 |
| 6.4 | Others | 0 | 0 |
| 7 | Leisure | | |
| 7.1 | House work | 11 | 18.33 |
| 7.2 | Walking | 1 | 1.67 |
| 7.3 | Movie | 4 | 6.67 |
| 7.4 | Music | 22 | 36.67 |
| 7.5 | Outing | 21 | 35 |
| 7.6 | Reading book | 25 | 41.67 |

**Table 2: Range of high-risk factors of coronary artery disease in study group (*N* = 60)**

| S. No. | Range of high-risk factors | Frequency (*f*) | Percentage |
|---|---|---|---|
| 1 | Mild | 37 | 62 |
| 2 | Moderate | 17 | 28 |
| 3 | Severe | 0 | 0 |
| 4 | No | 6 | 10 |
| | Total | 60 | 100 |

having (95%) normal high-density lipoprotein (HDL) and remaining (5%) were having abnormal HDL in their blood. Maximum of them (77.5%), 70% were having normal LDL and triglyceride, remaining (22.5%), (30%) having abnormal LDL, and triglyceride, respectively.

Table 6 shows association between years of experience with risk factors of coronary artery disease. Among 37 employees of mild risk, maximum of them i.e., 51.35% were with experience of 21-30 years as compared with 2.7% of employees who had experience of more than or equal to 30 years. The statistical findings depict that there exists significant association between years of experience with risk factors of coronary artery disease (2 =13.45, p < 0.05). The association between type of family and risk factors of CAD shows that among 17 teachers of moderate risk factors, maximum of them i.e., 76.48% were from nuclear families and (23.52%) were from joint families. The statistical findings depict there is no significant association between type of family and risk factors of CAD (2 =1.61, p >0.05). The statistical findings depict that there exists significant association between educational status with risk factors of coronary artery disease (2 = 16.76, p < 0.005). Association between monthly income and risk factors of CAD shows that among 37 teachers of mild risk, maximum of them (72.98%) had monthly income 20,001-30,000 as compared to (8.10%) who had income from 50,000-10,000. The statistical findings depict there exists a non significant association between monthly income and risk factors of coronary artery disease (2 =9.23, p > 0.05). Association between marital status and risk factors of coronary artery disease shows that 17 employees from mild risk factor, maximum of them 94.11% are married and none of them are unmarried. The statistical findings depict there exists a non significant association between marital status and risk factors for CAD (2 =1.21, p > 0.05). Association between religion and risk factors of CAD shows that among the 6 teachers who had no risk factors, all of them, i.e. 100% are Hindus. However, the statistical findings depict the non significant association between religion and risk factors of CAD (2 =1.29, p > 0.05).

### *Section III: Other findings*

This section deals with the association between high-risk factors with selected demographic variable in the study group.

## Discussion

According to the findings of the present study, the greatest number of educators are at a low risk of developing CAD (62%), a significant number of them are at a moderate risk (28%), and none of them are at a high risk of developing the condition. It was found that an average number of instructors had a history of either a severe or a chronic medical problem in their families. The vast majority of them have not looked at the blood cholesterol level. Food that is not vegetarian and food that is vegetarian are both consumed in equal amounts by the research group. The demands of their jobs caused stress for many of them. A substantial number of them engage in physical activity. The vast majority of them do not partake in either the smoking or drinking of alcohol. The majority of the sample, or 43.33%, had an abnormal body mass index. Only 10% of male instructors have a normal waist hip ratio, compared to the 23.33% of male teachers who had an abnormal WHR. The highest proportion of women (35%) were found to have an aberrant WHR, whereas the majority (31.67%) of women had a normal WHR. The cholesterol levels of most (75%) of instructors were within normal range, while the cholesterol levels of the remaining (25%) were higher than usual.

In a study that was done to establish the prevalence of coronary heart disease and coronary risk factors in an urban population of Rajasthan, the researchers analyzed a random sample of the city of Jaipur's population. Jaipur is the capital of Rajasthan. A questionnaire, a physical examination, and a 12-lead ECG were all delivered by a clinician to a total of 2212 persons who were at least 20 years old (males accounted for 1415 of the participants, while females accounted for 797). A diagnosis of CHD was made after reviewing previous data, the patient's response to the WHO-Rose questionnaire, as well as alterations in the EKG. The prevalence of CHD was 7.6% throughout the entire population. The rate of prevalence was 6.0% in men and 10.4% in females, with a rise in frequency that was directly connected to age. When diagnosed solely on the basis of electrocardiographic abnormalities (Q, ST, or T wave), the prevalence was 5.2%, with men having a prevalence of 3.5% and females having a prevalence of 8.4%. About 57% of males and 79% of females were found to be CHD-free. Coronary risk factors were detected in a considerable proportion, with smoking being present in 32% of cases (males 39% and females 19%), hypertension being present in 31% of cases (males 30% and females 34%) and in 11% of cases (males 10% and females 12%; WHO classification), diabetes being present in 1% of cases, and sedentary behaviors being present in 71% of cases. Additional risk factors were general obesity in 11% of patients, truncal obesity in 17% of men and 13% of females, and general obesity in 11% of patients. Age, sedentary behaviors, and the presence of hypertension were shown to have a significant connection with coronary heart disease prevalence in both males and females. In addition, smoking was found to have a significant association with CHD prevalence in males.[8]

Increased LDL cholesterol was 100 mg/dL or higher in very high-risk individuals with CAD, ischemic stroke, peripheral arterial disease, diabetes mellitus, or 2+ risk factors and a 10-

**Table 3: Coronary artery disease high-risk factors and associated details (*N* = 60)**

| S. No. | Coronary artery disease high-risk factors | Frequency (*f*) | Percentage (%) |
|---|---|---|---|
| 1 | Family history of acute or chronic medical condition | | |
| 1.1 | Present | 28 | 46.67 |
| 1.2 | Absent | 32 | 53.33 |
| 2 | Family history of medical condition | | |
| 2.1 | Coronary heart disease | 3 | 10.71 |
| 2.2 | High cholesterol level | 2 | 7.14 |
| 2.3 | High sugar level | 17 | 60.71 |
| 2.4 | High blood pressure | 10 | 35.71 |
| 2.5 | Any other | 5 | 17.86 |
| 3 | State the relationship of family member | | |
| 3.1 | Father | 14 | 50 |
| 3.2 | Mother | 14 | 50 |
| 3.3 | Brother | 0 | 0 |
| 3.4 | Sister | 1 | 3.57 |
| 3.5 | Any other | 4 | 14.29 |
| 4 | High blood sugar level | | |
| 4.1 | Present | 6 | 10 |
| 4.2 | Absent | 54 | 90 |
| 5 | From how long suffering from increased blood sugar level | | |
| 5.1 | <1 year | 4 | 66.67 |
| 5.2 | 1–5 years | 2 | 33.33 |
| 5.3 | 6–10 years | 0 | 0 |
| 5.4 | More than 10 years | 0 | 0 |
| 6 | Taking treatment for diabetes | | |
| 6.1 | Yes | 3 | 50 |
| 6.2 | No | 3 | 50 |
| 7 | Investigated serum cholesterol level | | |
| 7.1 | Yes | 11 | 18.33 |
| 7.2 | No | 49 | 81.67 |
| 8 | Serum cholesterol level found more than normal | | |
| 8.1 | Yes | 4 | 36.36 |
| 8.2 | No | 7 | 63.64 |
| 9 | Taking treatment for high serum cholesterol | | |
| 9.1 | Yes | 2 | 18.18 |
| 9.2 | No | 7 | 63.64 |
| 10 | Checking cholesterol level regularly | | |
| 10.1 | Yes | 6 | 10 |
| 10.2 | No | 54 | 90 |
| 11 | Type of diet consumption | | |
| 11.1 | Vegetarian | 30 | 50 |
| 11.2 | Non-vegetarian | 30 | 50 |
| 12 | If non-vegetarian how often consume it | | |
| 12.1 | Daily | 0 | 0 |
| 12.2 | Alternate day | 2 | 6.67 |
| 12.3 | Once in a week | 15 | 50 |
| 12.4 | Once in a month | 13 | 43.33 |
| 13 | Most preferred non-vegetarian food | | |
| 13.1 | Mutton | 13 | 43.33 |
| 13.2 | Chicken | 10 | 33.33 |
| 13.3 | Egg | 4 | 13.33 |
| 13.4 | Fish | 3 | 10 |
| 13.5 | Any other | 0 | 0 |
| 14 | Food prepared with Dalda (vegetable oil) | | |
| 14.1 | Yes | 4 | 6.67 |
| 14.2 | No | 56 | 93.33 |
| 15 | How often eating fried food | | |
| 15.1 | Daily | 2 | 3.33 |
| 15.2 | Once a week | 24 | 40 |
| 15.3 | More than once a week | 6 | 10 |
| 15.4 | Once a week | 26 | 43.33 |
| 16 | Preferred menu in hotel | | |
| 16.1 | Indian | 50 | 83.33 |
| 16.2 | Chinese | 1 | 1.67 |
| 16.3 | Continental | 9 | 15 |
| 16.4 | Fast food | 0 | 0 |
| 16.5 | Any other | 0 | 0 |

*(Contd...)*

**Table 3:** ***(Continued)***

| S. No. | Coronary artery disease high-risk factors | Frequency (*f*) | Percentage (%) |
|---|---|---|---|
| 17 | Experience of work-related stress most often | | |
| 17.1 | Present | 35 | 58.33 |
| 17.2 | Absent | 25 | 41.67 |
| 18 | Experiencing stress in personal family life | | |
| 18.1 | Yes | 24 | 40 |
| 18.2 | No | 36 | 60 |
| 19 | Taking of alcohol and alcoholic beverages | | |
| 19.1 | Yes | 4 | 6.67 |
| 19.2 | No | 56 | 93.33 |
| 20 | How often taking alcohol and alcoholic beverages | | |
| 20.1 | Daily | 0 | 0 |
| 20.2 | Alternate day | 0 | 0 |
| 20.3 | Weekly | 1 | 25 |
| 20.4 | Occasionally | 3 | 75 |
| 21 | Smoking cigarette regularly | | |
| 21.1 | Yes | 1 | 1.67 |
| 21.2 | No | 59 | 98.33 |
| 22 | How many cigarettes daily | | |
| 22.1 | <5 cigarettes | 1 | 100 |
| 22.2 | 5–10 cigarettes | 0 | 0 |
| 22.3 | 10–15 cigarettes | 0 | 0 |
| 22.4 | More than 15 cigarettes | 0 | 0 |
| 23 | Since how many years smoking cigarette | | |
| 23.1 | <5 years | 0 | 0 |
| 23.2 | 6–10 years | 0 | 0 |
| 23.3 | 11–15 years | 0 | 0 |
| 23.4 | More than 15 years | 1 | 100 |
| 24 | Performing exercise | | |
| 24.1 | Yes | 38 | 63.33 |
| 24.2 | No | 22 | 36.67 |
| 25 | How often perform physical exercise | | |
| 25.1 | Daily | 27 | 45 |
| 25.2 | Once a week | 0 | 0 |
| 25.3 | Twice a week | 2 | 3.33 |
| 25.4 | Sometimes | 11 | 18.33 |
| 25.5 | Not doing at all | 20 | 33.33 |

**Table 4: Anthropometric measurements in study group (*N*=60)**

| S. No. | Anthropometric measurement | Number of teacher | |
|---|---|---|---|
| | | Normal (*f*) (%) | >Normal (*f*) (%) |
| 1. | BMI (Kg/m$^2$) | 34 (56.67%) | 26 (43.33%) |
| 2. | WHR | | |
| | Male | 6 (10%) | 14 (23.33%) |
| | Female | 19 (31.67%) | 21 (35%) |

BMI: Body mass index, WHR: Waist-hip ratio

**Table 5: Biophysiological measurement in study group (*n*=60)**

| S. No. | Biophysiological measurement | Number of teachers | |
|---|---|---|---|
| | | Normal (f) (%) | > Normal (f) (%) |
| 1 | Pulse (min) | 10 (16.67) | 50 (83.33) |
| 2 | SBP (mmHg) | 50 (83.33) | 10 (16.67) |
| 3 | DBP (mmHg) | 45 (75) | 15 (25) |
| | **Lipid profile (*n*=40)*** | | |
| 4 | Cholesterol level | 30 (75) | 10 (25) |
| 5 | HDL | 38 (95) | 2 (5) |
| 6 | LDL | 31 (77.5) | 9 (22.5) |
| 7 | Triglyceride | 28 (70) | 12 (30) |

*Out of 60 study samples, only 40 samples were agreed to undergo lipid profile investigation. SBP: Systolic blood pressure, DBP: diastolic blood pressure, HDL: High-density lipoprotein, LDL: Low-density lipoprotein

**Table 6: Association between demographic variable and risk factors of coronary artery disease in study group (*n*=60)**

| S. No. | Variable | Category | *f* | Risk factors | | | | | | $\chi 2$ | *df* | *P* value |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Mild | | Moderate | | No | | | | |
| | | | | *(f)*37 | % | *(f)*17 | % | *(f)*6 | % | | | |
| 1 | Years of experience | 0–10 | 4 | 4 | 10.82 | 0 | 0 | 0 | 0 | 13.45 | 6 | <0.05* |
| | | 11–20 | 30 | 19 | 51.35 | 5 | 29.41 | 6 | 100 | | | |
| | | 21–30 | 23 | 13 | 35.13 | 10 | 58.82 | 0 | 0 | | | |
| | | ≥31 | 3 | 1 | 2.70 | 2 | 11.77 | 0 | 0 | | | |
| 2 | Type of family | Joint | 17 | 10 | 27.02 | 4 | 23.52 | 3 | 50 | 1.61 | 2 | >0.05 |
| | | Nuclear | 43 | 27 | 72.98 | 13 | 76.48 | 3 | 50 | | | |
| 3 | Educational status | D. Ed., | 26 | 12 | 32.43 | 12 | 70.59 | 2 | 33.33 | 16.76 | 4 | <0.005** |
| | | B. Ed., | 27 | 21 | 56.75 | 5 | 29.41 | 1 | 16.67 | | | |
| | | M. Ed., | 7 | 4 | 10.82 | 0 | 0 | 3 | 50 | | | |
| 4 | Monthly Income | 5000–10000 | 5 | 3 | 8.10 | 0 | 0 | 2 | 33.33 | 9.23 | 6 | >0.05 |
| | | 10001–20000 | 3 | 3 | 8.10 | 0 | 0 | 0 | 0 | | | |
| | | 20001–30000 | 45 | 27 | 72.98 | 14 | 82.35 | 4 | 66.67 | | | |
| | | ≥30001 | 7 | 4 | 10.82 | 3 | 17.65 | 0 | 0 | | | |
| 5 | Marital status | Married | 57 | 35 | 94.60 | 16 | 94.11 | 6 | 100 | 1.21 | 4 | >0.05 |
| | | Unmarried | 1 | 1 | 2.70 | 0 | 0 | 0 | 0 | | | |
| | | Widow | 2 | 1 | 2.70 | 1 | 5.89 | 0 | 0 | | | |
| 6 | Religion | Hindu | 58 | 35 | 94.60 | 17 | 100 | 6 | 100 | 1.29 | 4 | >0.05 |
| | | Muslim | 1 | 1 | 2.70 | 0 | 0 | 0 | 0 | | | |
| | | Christian | 1 | 1 | 2.70 | 0 | 0 | 0 | 0 | | | |

*Significant association. **Highly significant association between demographic variable and risk factors of CAD in study group

year risk for CAD >20%; 130 mg/dL or higher in moderately high-risk individuals with 2+ risk factors; according to a study done to determine the prevalence of adequate and optimal control of serum low-density lipoprotein cholesterol in an academic nursing home. The study was conducted at an academic nursing home. The study's sample consisted of 202 residents of an academic nursing home, with a mean age of 73 years (range, 50–98 years) and 104 women and 98 males. The measurements were the prevalence of lipid-lowering medication usage, serum LDL cholesterol levels below 100 mg/dL and below 70 mg/dL in extremely high-risk individuals, and below 130 mg/dL and below 100 mg/dL in moderately high-risk individuals. The results showed that measurements of blood LDL cholesterol were obtained in none of the six low-risk individuals (0%), 57 of 61 moderately high-risk individuals (93%) and 135 of 135 extremely high-risk individuals (100%). Statins were used by 24 of 57 people with moderately high risk and 115 of 135 people with extremely high risk (85% and 42%, respectively). Three out of 135 people with very high risk received ezetimibe treatment (2%). Less than 130 mg/dL was the last serum LDL cholesterol reported in 40 of 57 moderately high-risk individuals (70%), <100 mg/dL in 35 of 57 moderately high-risk individuals (61%), and <70 mg/dL in 108 of 135 very high-risk individuals (93%). Conclusion: In 93% of extremely high-risk individuals and 70% of moderately high-risk individuals, serum LDL cholesterol was satisfactorily reduced. Eighty percentages of extremely high-risk individuals and 60% of moderately high-risk individuals had serum LDL cholesterol under optimum control.[9]

To ascertain the relationship between social class and the prevalence of coronary risk factors and CAD, a research entitled "Social class and CAD in an urban population of North India in the Indian Lifestyle and Heart Study" was conducted. A whole community cross-sectional survey was conducted in the city of Moradabad on 20 randomly chosen streets.1806 urban individuals, ages 25 to 64, chosen at random (904 males and 902 women). A questionnaire, physical examination, and electrocardiography were delivered by doctors and nutritionists. Based on characteristics such as education, occupation, per capita income, and housing quality and possessions such as consumer goods and other family assets, all subjects were categorized into social classes 1 through 5. According to the findings, social classes 1, 2, and 3 mostly included high- and middle-class individuals, whereas classes 3 and 4 were low-income groups. In comparison to lower socioeconomic classes, social classes 1, 2, and 3 had considerably greater prevalences of coronary risk factors such as hypertension, diabetes mellitus, hypercholesterolemia, and sedentary lifestyle. Blood pressure, LDL cholesterol, mean serum cholesterol, and triglycerides were all substantially correlated with upper and medium socioeconomic groups. Smoking has a strong correlation with lower socioeconomic levels. After age correction, a multivariate logistic regression analysis showed a significant correlation between socioeconomic class and CAD, hypercholesterolemia, hypertension, diabetes mellitus, and sedentary behavior. Men's CAD and smoking were substantially related. They came to the conclusion that CAD and the coronary risk factors hypercholesterolemia, hypertension, diabetes mellitus, and sedentary lifestyle are more common in people in socioeconomic classes 1, 2, and 3 in an urban population of India.[10]

## Conclusion

Years of experience and educational level were shown to be significantly correlated with risk factors for CAD.

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## Conflicts of Interest

The author declares no conflicts of interest in the study.

## References

1. Greiw AH, Gad Z, Mandil A, Wagdi M, Elneihoum A. Risk factors for cardiovascular diseases among school teachers in Benghazi, Libya. Ibnosina J Med Biomed Sci 2010;2:168-77.
2. Gupta R, Gupta VP, Sarna M, Bhatnagar S, Thanvi J, Sharma V, *et al*. Prevalence of CAD and risk factors in an urban population. Indian Heart J 2002;54:59-66.
3. Prabhakaran D, Jeemon P, Goenka S, Lakshmy R, Thankappan KR, Ahmed F, *et al*. Impact of a worksite intervention program on cardiovascular risk factors: A demonstration project in an Indian industrial population. J Am Coll Cardiol 2009;53:1718-28.
4. Polit DF, Beck CT. Nursing Research: Principles and Methods. 7th ed. Philadelphia, PA: Lippincott Williams and Wilkins; 2007. p. 142-3.
5. Tiwari R, Choudhary R, Chakraborthy G, Debbarma A. Tobacco use and cardiovascular disease: A knowledge, attitude and practice study in rural Kerala. Indian J Med Sci 2006;60:271-6.
6. Ha M, Park J. Shift work and metabolic risk factors of cardiovascular disease. J Occup Health 2005;47:89-95.
7. Myers D. Risk Factors and Coronary Heart Disease. About.com Health's Disease and Condition Content; 2010.
8. IC Health, Cardiovascular Disease (CVD) Surveillance and Health Promotion in Industrial Settings: A Module for CVD Surveillance and Health Promotion Country Office, New Delhi. The APW SE/06/226543 between IC Health and WHO on 10 August, 2007.
9. Gartside PS, Wang P, Glueck CJ. Prospective assessment of coronary heart disease risk factors: The NHANES I epidemiologic study (NHEFS) 16-year follow-up. J Am Coll Nutr 1998;17:263-9.
10. Gupta R, Guptha S, Agrawal A, Kaul V, Gaur K, Gupta VP. Secular trends in cholesterol lipoproteins and triglycerides and prevalence of dyslipidemias in an urban Indian population. Indian Heart J 2008;1:26-33.

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