

**PREVALANCE OF RISK FACTORS AMONG PATIENTS HAVING
CORONARY ARTERY DISEASE WITH ANGIOPLASTY IN
SELECTED TERTIARY HEALTH CARE FACILITY OF NEW DELHI**

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ABSTRACT

The aim of this study was to estimate the prevalence of risk factors of cardiovascular disease among Young Population having Coronary Artery Disease with Angioplasty in selected Tertiary Care Facility in Delhi. A cross-sectional study among patients with established CAD admitted in the Department of Cardiology was carried out. A total of 1513 patients who were admitted in the Cardiology department between January 2017 and December 2017 with acute coronary syndrome or coronary angiographic or Electrocardiography evidence of ischemic heart disease. Risk factors studied were the conventional

risk factors for coronary artery disease - hypertension, diabetes mellitus, dyslipidemia smoking, and family history of coronary artery disease. Total 1513 adult people were studied, of them males were 1192(78.8%) and females were 321(21.2%). Mean age of the respondents was 43.04 (SD±8.86) years. Overall prevalence of smoking tobacco and smokeless tobacco use was 35.82% respectively in males 40.52% in female 18.38%. Overall prevalence of hypertension and diabetes was 41.57% and 36.62%. The study population showed high prevalence of hypertension, diabetes and smoking habit in cardiovascular disease. in contrast to other study in this study population shows young females having greater percentage of risk factors than males. smoking is also in increasing trend in females 18.38% which is quiet high in females. There is need for greater awareness of cardiovascular disease risk factors in young population.

KEYWORDS: Coronary Artery Disease, Young population, Risk factors, Health awareness, Lifestyle related risks.

INTRODUCTION

CORONARY ARTERY DISEASE RISK IN YOUNG POPULATION The excess risk of CAD in Indians appears to be greater at younger ages. when people move from a rural to an urban environment, they become sedentary or may adapt westerns life styles. Decreased physical activity and increased consumption of calories and saturated fats result in abdominal obesity, insulin resistance and atherogenic dyslipidemia. These acquired metabolic abnormalities appear to have a synergistic effect on the development of CAD in genetically predisposed individuals. To prevent and/or reduce the risk of morbidity and mortality due to CVD, it is essential to understand the magnitude of the problem of CVD as well as the nature and prevalence of risk factors that possibly contribute to it.

Very few population-based studies have been conducted in different parts of India to assess the prevalence of CVD. In the context of demographic and epidemiological transition as well as changing life styles of people, there is an urgent need to systematically document baseline information on the prevalence of risk factors possibly contributing to the problem of CVD in different population groups in India.

Current scenario of lifestyle diseases in India

Concurrent with rapid urbanization and development there has been a remarkable change in the lifestyle of most Indians. People tend to smoke or chew tobacco as a mark of social status, tend to ignore physical activity, eat more junk or fatty food, consume more salt, and prone to more psychosocial stress. The resultant effect of this change is epidemic like increase in life style related disorders (Table 1).

Table 1: Current burden of lifestyle related disorders in India

Disease	Estimated number of people affected	Major risk factors
Obesity	155 million	Physical inactivity, faulty diet, exercise
Hypertension	140 million	Faulty diet, lot of salt, physical tobacco, alcohol, stress.
Diabetes	64 million	Physical inactivity, faulty diet, stress
CAD	31.8 million	Smoking faulty diet, stress.
Cancer	12.7 million	Smoking faulty diet, stress.
Stroke & COPD	1.2 million	Hypertension, smoking
Chronic respiratory diseases	30 million	Smoking

Problem statement: The incidence of myocardial infarction (MI) and symptomatic CAD in young adults was very low but now situation has changed. Studies show that young population with CAD are increasing day by day. Now patients of very young age >40 year are also affected with significant diseases in this age range.

The main causative factors for CAD identified as coronary risk factors are: smoking / tobacco, physical inactivity, faulty diet, hypertension, diabetes, high level of cholesterol and stress. As most of these risk factors are lifestyle related attempt to modify them by appropriate interventions form the cornerstone of prevention of CAD epidemic. Present study was carried out To assess the risk factors associated with CAD among young population having significant CAD in selected tertiary health care facility of New Delhi.

METHODOLOGY

The research design adopted for the study was non-experimental descriptive survey approach. It was a secondary data survey focused on the prevalence of risk factors of cardiovascular disease among patients in selected tertiary health care facility of New Delhi. Study duration was 6 months (from January 2018 to July 2018). The study was conducted in CAD clinic of Dr R. M. L. hospital New Delhi. The study population for this study included men and women aged 18 years and above underwent angioplasty ether of primary angioplasty or elective angioplasty in hospital. A sample size of 1513 was taken for the study, Patients who's angioplasty was done in year 2017. Structured questionnaire- The questionnaire was developed self by investigator. Tool has two-part first part contains sociodemographic characteristics of study population part to has risk factors. The data obtained was analysed in terms of the objective of the study by using descriptive and inferential statistics by using SPSS.

RESULT

Maximum number of subjects 583(38.53%) were in age group of 45-54 years and 179(11.83%) were in age group of 35-44 years and 56(3.7%) were in age group 25-34 years and 7(.47%) were of very young age group 18-24 year. Total 825(54.54%) subjects were less than 54 year of age. 414(27.36%) subjects were in the age group of 55-64 year and 274(18.11%) were found above the age of 65 years. Majority of the sample 1192(78.78%) were male and 321 (21.22%) were female in the study subjects. Majority of the sample were male 78.78%. age distribution in male population was 678 (56.88%) was less than 55 year of age which comes in premature CAD in male population. 514 (43.12%) were more than 55

year of age. Regarding sample of total female population 321(21.22%), 237(73.83%) were less than 65 year of age and 84(26.17%) were more than 65 year of age. Percentage of premature CAD subjects is quiet high. Maximum number of subjects 1226(81.03%) were from Delhi as hospital is situated in Delhi only. And 136(8.99% were from Uttar Pradesh, 105(6.94%) were from Haryana, 31(2.05%) were from Bihar some were from Rajasthan 6 and Assam 9also.

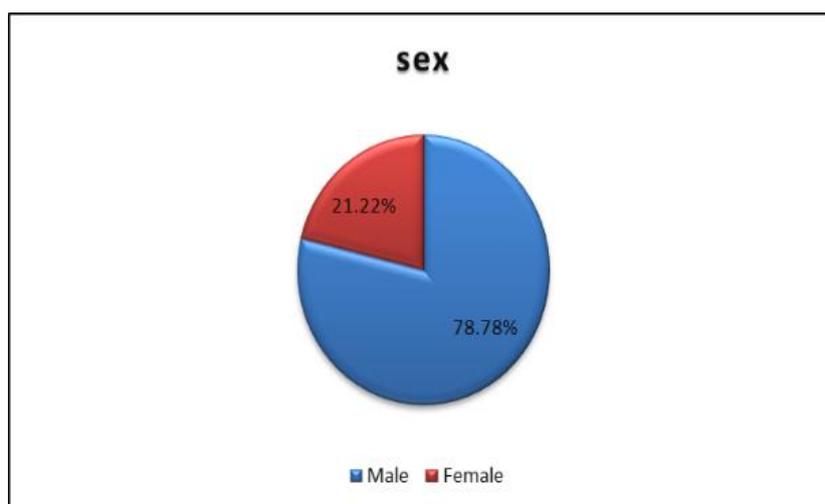


Fig 1: percentage distribution of gender.

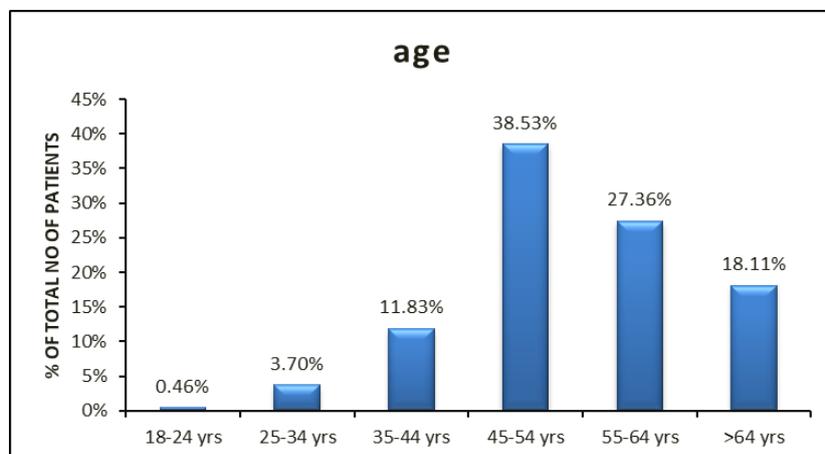


Fig 2: Distribution of study population according to age.

Subject having diabetes were 554 (36.62%) in study population. More than one third of the study population having diabetes. 629 (58.43%) subjects were having hypertension. More than half of the study population having hypertension. Subject having smoking habit were 542 (35.82%) in study population. More than one third of the study population having habit of smoking. Only 107 (7.07%) subjects were having family history of cardiovascular

diseases. Very less study population having family history of cad. Only 180 (11.90%) subjects were having dyslipidemia. Very less study population having dyslipidaemia.

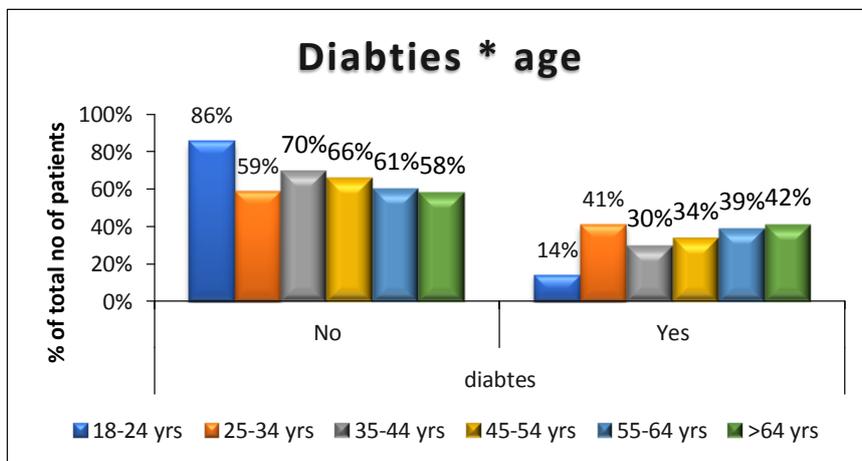


Fig 3: Age wise distribution of diabetes in study population.

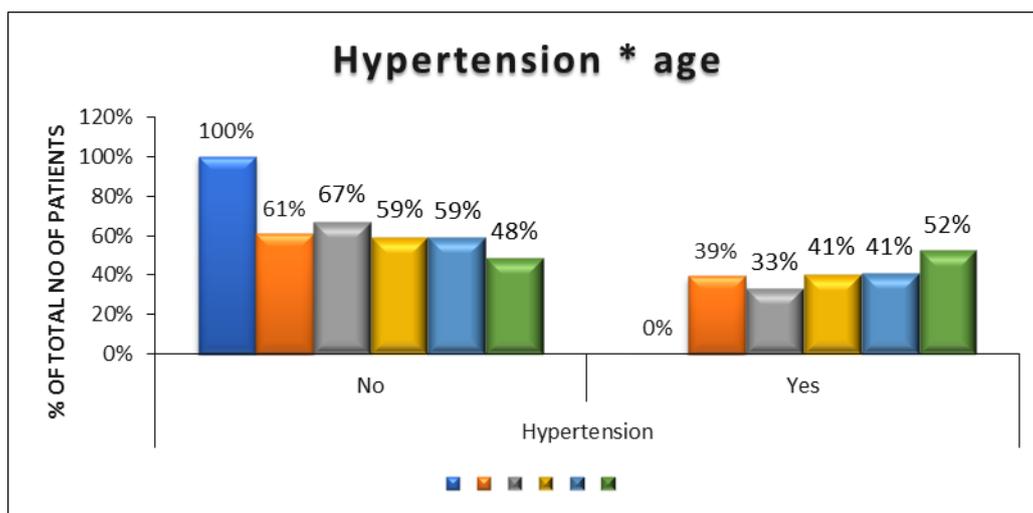


Fig 4: Age wise distribution of hypertension in the study population

DISCUSSION

Cardiovascular diseases have assumed epidemic proportions in India as well. According to the World Health Report 2002, cardiovascular diseases (CVDs) will be the largest cause of death and disability in India by 2020. According to the World Health Report of 2002, deaths due to CHD in India rose from 1.17 million in 1991 to 1.59 million in 2000 and 2.03 million in 2010.^[32] A total of nearly 64 million cases of CVD are likely in the year 2015, of which nearly 61 million would be CHD cases (the remaining would include stroke, rheumatic heart disease and congenital heart diseases). Deaths from this group of diseases are likely to amount to be a staggering 3.4 million.^[33]

This study investigated the prevalence of risk factors for CAD in a tertiary care hospital in central Delhi of India. Participants were of both sexes and aged 20–80 years. It was found that approximately half of the study population had hypertension (41.6%) and more than one third of the population had a diabetes (36.62%) and smoking habit (35.82%). About one fifth of the study population was dyslipidaemia (11%). Two or more CAD risk factors were identified in 78.6% of participants, which indicates that there is a large population who was develop CAD due to association of these factors.

The present results can be compared with the findings in 739 subjects (451 men and 288 women) of the Jaipur Heart Watch-5 study by Gupta *et al.*^[6] The prevalence of hypertension was 39.5% in men and 24.6% in women, diabetes was present in 15.5% of men and in 10.85% of women, and 33% of men and 32.7% of women had high cholesterol levels.

Similar results were found by a study by Prabhakaran *et al.*^[7] among men working in an industry in northern India. A high serum total cholesterol/HDL ratio was found in 62% of the population, overweight in 47%, hypertension in 30% and diabetes in 15%. Prabhakaran *et al.* also showed that 47% of their subjects had at least two CAD risk factors, compared with 78.6% with two or more CAD risk factors in the present study.

Another study in 2008 by Mohan and Deepa showed the following prevalences of major risk factors for cardiovascular disease: diabetes 11.9%, hypertension 25.4%, dyslipidemia 40.2%, hypertriglyceridemia 28.3%, overweight (BMI ≥ 23 kg/m²) 60.2% and metabolic syndrome 34.1%.^[8]

Various other studies have also shown similar trends in the Indian population.^[9–15] An increasing prevalence of impaired glucose tolerance and diabetes in urban residents of Chennai was reported by Ramchandran *et al.*^[16] In 2002, Gupta *et al.* showed that smoking and low physical activity levels were widespread in 20–39-year-old urban adults.^[17] Another important independent risk factor for CAD is a family history of CAD, as reported by Goel *et al.* in 2003.^[18]

Our study has clearly shown that among the patients population, there is a high prevalence of smoking, hypertension and diabetes, which are all modifiable CAD risk factors. The study has shown a direct correlation between increased smoking and dyslipidaemia, diabetes and

hypertension. CAD has a multi-factorial aetiology, with many of the risk factors being influenced by lifestyle.

CONCLUSION

The present study shows very high prevalence of diabetes, hypertension and smoking in young population as well as in very young population also (below 40 year) The rising CVD burden and the damaging consequences it has on individuals, families, and populations require urgent attention. Innovative strategies are needed to halt the progression of the CVD epidemic in resource-poor settings in India. To address the socioeconomic differentials in the burden of disease and healthcare needs of Indians, more resources need to be directed toward applying the existing knowledge base to tackle the CVD epidemic in policy, programs, capacity building, and research arenas.

RECOMMENDATIONS

Recommendation for slum population are that preventive strategies to be put forward should target younger population.

1. There is a need to increase the level of education and provide health information to increase the awareness of diseases.
2. Programs for the raising the awareness regarding side effect of smokeless tobacco consumption, particularly betel quid chewing and harmful consumption of alcohol should be developed.
3. Establishment of a health facility-based screening programs in area.
4. Formulation of polices to control the incidence of tobacco use in work place and other public places.
5. Embarking on community-based health education programme on the risk factors for NCDs and preventive strategies.
6. Strengthening action to promote healthy diet and physical activity in schools.
7. At national level, forming appropriate policies for tobacco and alcohol control, promotion of adequate physical activity and healthy diet is required.
8. At local level, health system needs to be reoriented to address the challenge of NCDs. We have to create an environment that helps adoption of healthy lifestyle.

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