ORIGINAL RESEARCH

Assessment of risk factors of coronary artery disease in adults

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ABSTRACT
Background: Coronary artery disease (CAD)is a condition that affects the arteries supplying blood to the heart muscle. The present study was conducted to assess risk factors of coronary artery disease in adults. **Materials & Methods:** 82 cases of coronary artery disease (CAD) of both genders were enrolled and parameters such as family history, history of smoking, diabetes, obesity, high body mass index (BMI), high cholesterol, substance abuse was recorded. **Results:** Out of 82 patients, males were 52 and females were 30. Common risk factors for CAD was hypertension in 45, smoking in 63, alcoholism in 32, dyslipidaemia in 78, diabetes mellitus in 39 and positive family history in 17. The difference was significant (P< 0.05). **Conclusion:** Common risk factors of coronary artery disease was diabetes, dyslipidaemia and hypertension smoking, obesity, alcoholism, and positive family history.
Key words: Coronary artery disease, Alcohol, smoking

INTRODUCTION

Coronary artery disease (CAD), also known as coronary heart disease or ischemic heart disease, is a condition that affects the arteries supplying blood to the heart muscle.[1] It is the most common type of heart disease and a leading cause of death worldwide.[2]In CAD, the coronary arteries, which are responsible for delivering oxygen-rich blood to the heart, become narrowed or blocked due to the accumulation of fatty deposits called plaques. These plaques are typically composed of cholesterol, calcium, and other substances. As the plaques grow, they can restrict blood flow to the heart, leading to various symptoms and complications.[3]

There are various risk factors for coronary artery disease. The risk of CAD increases with age.Men are generally more prone to CAD than premenopausal women. However, the risk becomes similar in men and women after menopause.[4]Having a close relative with CAD increases the risk.Tobacco use damages the arteries and accelerates the development of plaques.Uncontrolled hypertension puts extra strain on the arteries and increases the risk.Elevated levels of LDL (bad) cholesterol and reduced levels of HDL (good) cholesterol contribute to plaque formation.Individuals with diabetes are at higher risk of developing CAD.[5]Being overweight or obese increases the likelihood of CAD.Lack of regular physical activity is associated with an increased risk of CAD.Consuming a diet high in saturated and trans fats, cholesterol, and sodium can contribute to CAD.[6]Symptoms of coronary artery disease may include chest pain or discomfort (angina), shortness of breath, fatigue, heart palpitations, and, in severe cases, heart attack (myocardial infarction).[7]The present study was conducted to assess risk factors of coronary artery disease in adults.

MATERIALS & METHODS

The present study consisted of 82 cases of coronary artery disease (CAD) of both genders. All gave their written consent to participate in the study.

Data such as name, age, gender etc. was recorded. Parameters such as family history, history of smoking, diabetes, obesity, high body mass index (BMI), high cholesterol, substance abuse was recorded. Assessment of serum lipid profile, complete hemogram, urine analysis and echocardiography (ECG) were performed.Data thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant.

RESULTS
Table I Distribution of patients

| Total- 82		
Gender	**Male**	**Female**
Number	52	**30**

Table I shows that out of 82 patients, males were 52 and females were 30.

Table II Risk factors for CAD

Risk factors	Number	P value
Hypertension	45	0.05
Smoking	63	
Alcohol	32	
Dyslipidaemia	78	
Diabetes mellitus	39	
Obese	58	
Family history	17	

Table II, graph I shows that common risk factors for CAD was hypertension in 45, smoking in 63, alcoholism in 32, dyslipidaemia in 78, diabetes mellitus in 39, obesity in 58 and positive family history in 17. The difference was significant (P< 0.05).

Graph I Risk factors for CAD
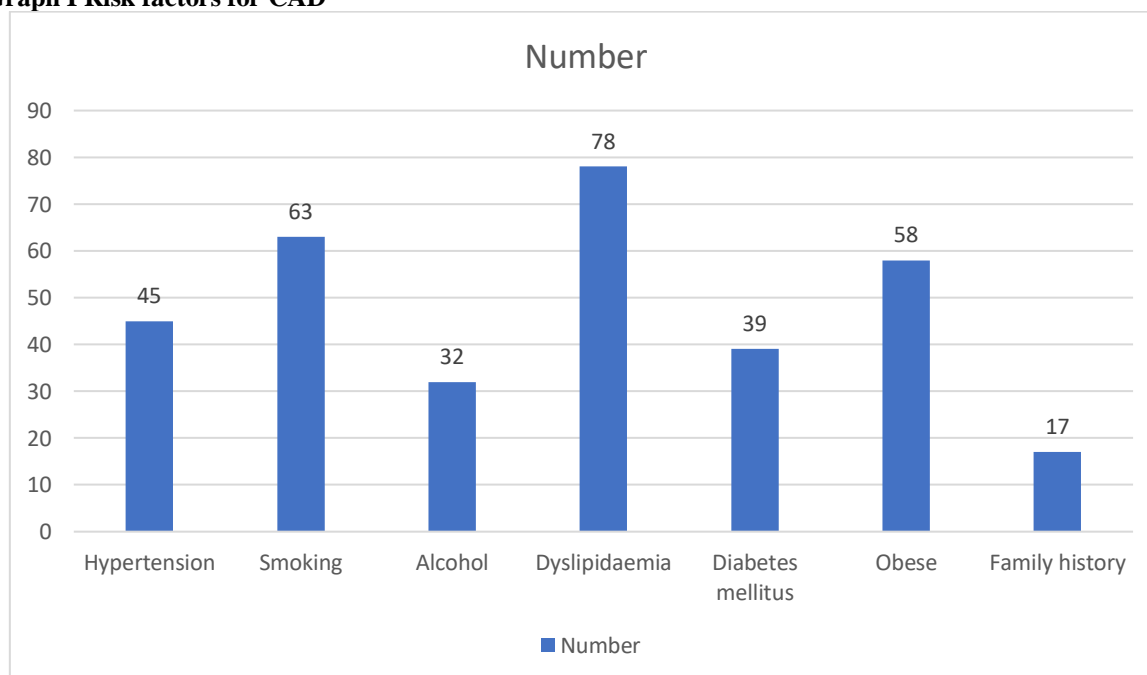
DISCUSSION

Treatment options for CAD aim to relieve symptoms, prevent complications, and reduce the risk of heart attack.[8,9] They may include lifestyle changes (such as quitting smoking, adopting a healthy diet, exercising regularly, and managing stress), medications (such as cholesterol-lowering drugs, blood thinners, and medications to control blood pressure), and medical procedures (such as angioplasty and stenting, coronary artery bypass grafting, or CABG).[10]The present study was conducted to assess risk factors of coronary artery disease in adults.

We found that out of 82 patients, males were 52 and females were 30.Sekhri et al[11]assessed the prevalence of risk factors for coronary artery disease (CAD). The study revealed that 4.6% of the study population had a family history of premature CAD. The overall prevalence of diabetes was 16% (5.6% diagnosed during the study and the remaining 10.4% already on medication). Hypertension was present in 21% of subjects. The prevalence of dyslipidemia was significantly high, with 45.6% of study subjects having a high total cholesterol/high density lipoprotein ratio. Overall, 78.6% subjects had two or more risk factors for CAD.

We found that common risk factors for CAD was hypertension in 45, smoking in 63, alcoholism in 32, dyslipidaemia in 78, diabetes mellitus in 39 and positive family history in 17. Hasan et al[12] found that in patients with young CAD smoking was seen 29 patients (72.5%). Low HDL was found in 15 patients (37.5%), raised LDL was seen in 33 patients (82.5%),

hypertension in 21 patients (52.5%), impaired fasting glucose / DM in 8 patients (20%). 27 patients (67.5%) had a positive family history of CAD. 20 patients (50%) were overweight, had BMI >30, 20 patients (50%) had STEMI. In that, 18 patients had AWMI (45%) and only 2 (5%) had IWMI. 2 (5%) had new onset LBBB. 11 (27.5%) had NSTEMI and 7 (17.5%) had Unstable angina. On echocardiography, 29 patients (72.5%) had LV dysfunction.

Gupta et al[13]correlated the prevalence of obesity with risk factors we performed epidemiological studies in India.Smoking/tobacco use was higher in urban women (8.9% versus 4.5%, p 0.01) and rural men (50.0% vs 40.6%). Urban cohorts had higher rates of obesity, truncal obesity, hypertension, hypercholesterolemia, diabetes, and metabolic syndrome (p 0.001). In different cohorts, including rural JHW and urban JHW-1, JHW-2, JHW-3, and JHW-4, the age-adjusted prevalence (%) of obesity was 9.4, 21.1, 35.6, 54.0, and 50.9 for males (r2 = 0.92, p = 0.009) and 8.9, 15.7, 45.1, 61.5, and 57.7 for women (r2 = 0.88, p = 0.018). Truncal obesity was prevalent in 3.2, 19.6, 41.4, 31.1, and 31.1 percent of males and 10.1, 49.5, 42.1, 51.7, and 50.5 percent of women (r2 = 0.56, p = 0.1467). Rising trends in the prevalence of hypertension (r2 = 0.93, p = 0.008) and metabolic syndrome were seen in subsequent cohorts. The limitation the study is small sample size.

CONCLUSION

Authors found that common risk factors of coronary artery disease was diabetes, dyslipidaemia and hypertension smoking, obesity, alcoholism, and positive family history.

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