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Original ARTICLE

Assessment of prevalence of risk factors for cardiovascular disease among known population: an observational study

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ABSTRACT
Background: Hypertension is fast becoming a major global health problem, with the world population with hypertension projected to increase to 29% by 2025. Diabetes mellitus (DM) is a major non-communicable disease contributing to mortality, morbidity and other non-communicable diseases. Hence; the present study was planned for assessing the prevalence of risk factors for cardiovascular disease among known population. **Materials & methods:** A total of 200 patients reporting for routine medical check-up were analysed in the present study. Complete demographic details of all the subjects were obtained. A self-framed questionnaire was framed and was given to all the patients. The questionnaire was made with the aim of extracting knowledge in relation to the personal habits and medical history. Blood samples were obtained from all the subjects and were sent to central laboratory for assessment of serum lipid profile. All the known risk factors of cardiovascular diseases were recorded and summarized in Microsoft excel sheet. **Results:** Obesity was found to be present in 48 patients, while alcohol habit and smoking habit was found to be present in 80 and 50 patients respectively. Dyslipidaemia was found to be present in 40 patients. Diabetes and hypertension was found to be present in 45 percent and 50 percent of the patients respectively. **Conclusion:** Various cardiovascular risk factors significant affect the general population.
Key words: Cardiovascular, Hypertension, Risk factors

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INTRODUCTION

Hypertension is fast becoming a major global health problem, with the world population with hypertension projected to increase to 29% by 2025. Low-income and middle-income countries bear about 80% of the burden of hypertension and its complications. The prevalence of hypertension varies between 15-35% in urban adult populations of Asia.[1- 3] While studying diabetic patients with cardiovascular diseases, it was observed that peripheral arterial disease in diabetic patients is similar to that found in control subjects but it begins at an early age, advances more rapidly and is more common. Diabetes mellitus (DM) is a major non-communicable disease contributing to mortality, morbidity and other non-communicable diseases.[4, 5] There were approximately 171 million adults with diabetes mellitus worldwide in the year 2000 and this is projected to rise to 366 million by 2030.[6] Hence; the present study was planned for assessing the prevalence of risk factors for cardiovascular disease among known population.

MATERIALS & METHODS

The present study was conducted with the aim of assessing the prevalence of risk factors for cardiovascular disease among known population. A total of 200 patients reporting for routine medical check-up were analysed in the present study. Complete demographic details of all the subjects were obtained. A self-framed questionnaire was framed and was given to all the patients. The questionnaire was made with the aim of extracting knowledge in relation to the personal habits and medical history. Blood samples were obtained from all the subjects and were sent to central laboratory for assessment of serum lipid profile. All the known risk factors of cardiovascular diseases were recorded and summarized in Microsoft excel sheet. All the results were summarized and were analysed by SPSS software. Chi- square test was used for assessment of level of significance.

RESULTS

In the present study, a total of 200 patients were analysed. Majority of the patients belonged to the age group of 30 to 50 years. Mean age of the patients of the present study was 45.3 years. 120 patients in the present study were males while remaining were females. In the present study, obesity was found to be present in 48 patients, while alcohol habit and smoking habit was found to be present in 80 and 50 patients respectively. Dyslipidaemia was found to be present in 40 patients. Diabetes and hypertension was found to be present in 45 percent and 50 percent of the patients respectively.

Table 1: Demographic data

Parameter		Number of patients	Percentage of patients
Age group (years)	Less than 30	40	20
	30 to 50	100	50
	More than 50	60	30
Gender	Males	80	40
	Females	120	60

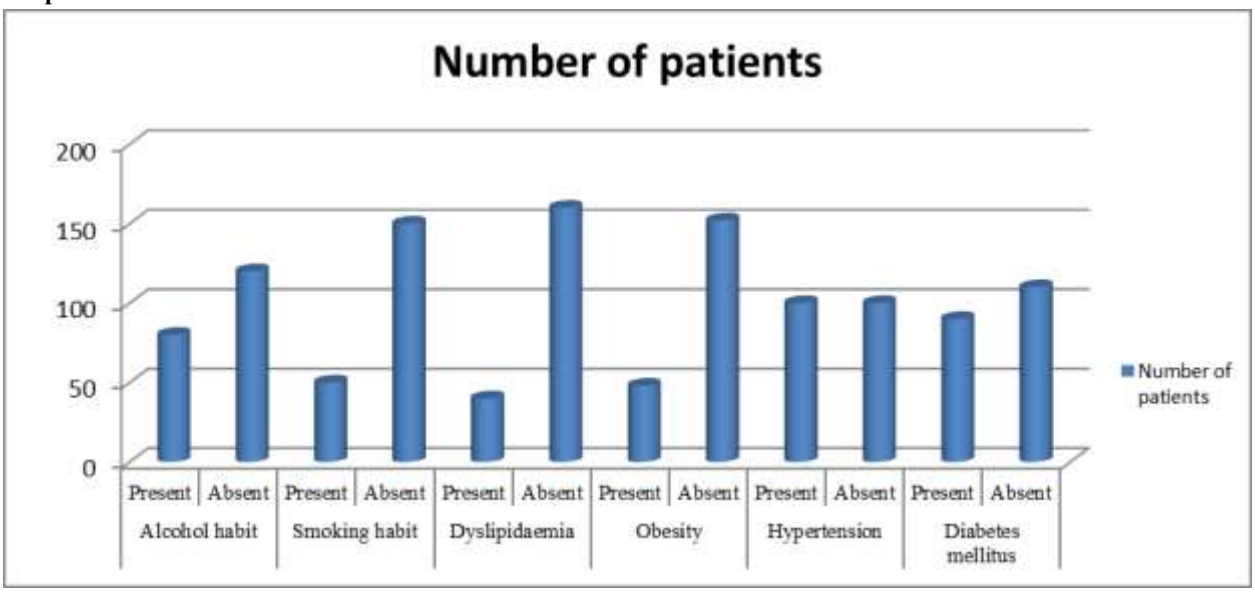
Table 2: Risk factors for cardiovascular diseases

Cardiovascular risk factors		Number of patients	Percentage of patients
Alcohol habit	Present	80	40
	Absent	120	60
Smoking habit	Present	50	25
	Absent	150	75
Dyslipidaemia	Present	40	20
	Absent	160	80
Obesity	Present	48	24
	Absent	152	76
Hypertension	Present	100	50
	Absent	100	50
Diabetes mellitus	Present	90	45
	Absent	110	55

DISCUSSION

For thousands of years, our knowledge of the causes of CVD and its therapy was static. It was only in the last half of the 20th century that research into the causes of CVDs accelerated, and with it, new therapies were found. Nationally representative surveys have shown rising trend of overweight and obesity in developing countries. Economic development, increased availability and consumption of food, changes in lifestyle and increased urbanization are contributing further to increase the burden of obesity in India. The burden of obesity is more in urban areas and affecting young adults and children.

Graph 1: Risk factors for cardiovascular diseases



Especially college students are highly vulnerable to obesity as living away from home, transitioning to independent living and are thus making their own food choices, irregular routines and attracted to new lifestyle, which often results in imbalanced diet.[4-7] Hence; the present study was planned for assessing the prevalence of risk factors for cardiovascular disease among known population. In the present study, a total of 200 patients were analysed. Majority of the patients belonged to the age group of 30 to 50 years. Mean age of the patients of the present study was 45.3 years. 120 patients in the present study were males while remaining were females. Glucose control is pertinent in the diabetic populations but is non-significantly associated with CVD risk in non-diabetics. On average diabetes mellitus (DM) risk of CVD, whilst those with impaired fasting glucose (IFG) are known to be at significant risk of CVD as well as progression to DM. In DM serum glucose reduction is shown to reduce CVD, with lowest risk at normal blood sugars. More intense glucose reductions were deleterious, with particular CVD risk from certain thiazolidinediones and dipeptidyl peptidase-4 inhibitors. Recent trials from the sodium/glucose transporter 2 inhibitor class of oral hypoglycaemics such as empagliflozin have been shown to significantly reduce all-cause mortality by 32%, as well as CVD death by 28% and HF by 35% in comparison with standard care.56 It appears that these effects were not mediated by reduction in glucose, rather cardio-renal haemodynamic effects, but the substantial benefits demonstrated would recommend its early use in diabetic patients. Current guidelines need to be updated with further data on these medications.[6-8]

In the present study, obesity was found to be present in 48 patients, while alcohol habit and smoking habit was found to be present in 80 and 50 patients respectively. Dyslipidaemia was found to be present in 40 patients. Diabetes and hypertension was found to be present in 45 percent and 50 percent of the patients respectively. There are many risk factors for CAD and some can be controlled but not others. The risk factors that can be controlled (modifiable) are: High BP; high blood cholesterol levels; smoking; diabetes; overweight or obesity; lack of physical activity; unhealthy diet and stress. Those that cannot be controlled (conventional) are: Age (simply getting older increases risk); sex (men are generally at greater risk of coronary artery disease); family history; and race.[8, 9]

The importance of controlling BP was finally embraced in practice guidelines in the first "Report of the Joint National Committee (JNC) on Detection, Evaluation, and Treatment of High Blood Pressure" in 1977. It is now recognized universally that hypertension increases atherosclerotic CVD incidence; the risk burden is 2–3-fold. CAD is the most common sequelae for hypertensive patients of all ages. Hypertension predisposes to all clinical manifestations of CHD including myocardial infarction, angina pectoris, and sudden death. Even high normal BP values are associated with an increased risk of CVD. [10-12]

CONCLUSION

Under the light of above mentioned data, the authors conclude that various cardiovascular risk factors significant affect the general population. Therefore, adequate health care awareness should be taken time to time for decreasing the prevalence of these risk factors.

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