ORIGINAL ARTICLE

A Study of Prevalence of Risk Factors for Coronary Artery Diseases in Asymptomatic Middle Aged and Elderly Subjects

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Abstract

This study was conducted to determine the prevalence of risk factors for coronary artery disease (CAD) in apparently healthy middle aged and elderly population and to find the different between urban and rural group. A total of 160 individuals (80 urban and 80 rural) were included in the study. All the subjects underwent detailed history and physical examination with special emphasis on cardiovascular system. The biochemical investigations were done in all the subjects which included blood sugar, serum LDL and serum triglyceride levels. The prevalence of 2 or more than 2 risk factors were observed in 95% subjects. The prevalence of smoking was 63%, which was more prevalent in the rural population. The sedentary lifestyle was seen in 80% subjects more in females and urban group. The prevalence of asymptomatic hypertensives and isolated systolic hypertension were seen in 34% and 10% individuals respectively. Other risk factors were-diabetes mellitus (4%), Increase LDL (38%), hypertriglyceridemia (23%) and central obesity (27.50%). The two most common risk factors for CAD were sedentary lifestyle and smoking. These risk factors are modifiable and their reduction during adulthood can lead to marked reduction in the burden of CAD in middle aged and elderly Indian population.

Key Words

Asymptomatic, Middle aged, Elderly, Urban, Rural, Risk factors, CAD.

Introduction

During the recent years incidence of CAD have shown an increasing trend in India (1). The risk of developing CAD in Indian population is much higher than that in other countries (2,3). Moreover, CAD is the major cause of disability, thus limiting the activity and eroding the quality of life of millions of elderly people each year. Therefore, the following study is undertaken to study the prevalence of risk factors in apparently healthy population and to determine which risk factors are more prevalent in our society.

Material and Methods

A total of 160 individuals were enrolled for the study, 80 each from urban and rural population on the basis of house to house survey. All the subjects of more than 55 years of age were included who were not a known case of hypertension, CAD, diabetes mellitus, stroke or chronic respiratory diseases. The subjects were not aware of their disease and were not on any treatment. All subjects underwent detail past medical history including dietary habits and life style pattern, a physical examination with special emphasis on body mass index,

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waist-hip ratio and cardiovascular examination and biochemical investigations-fasting blood sugar, serum LDL and serum triglyceride levels. The criteria for defining the presence of risk factors for CAD were used (4,5) (Table 1). The results were statically analyzed using chi square test with SPSS software. P value of <0.05 was taken as significant.

Table 1. Criteria for defining risk factor for CAD

Risk factors	Criteria
Smoking	Present smoker or left less than 5years back
Generalised obesity	Body mass index (weight in kg/height22 in cm) = 27 in males and 25 in females
Central obesity	Waist/hip ratio =1.0 in males and 0.9 in females
Sedentary habits	Subject walking less than 14.5km/week (4)
Hypertension	Blood pressure=140/90 mmHg (JNCVI criteria) (5)
Diabetes mellitus	Plasma Sugar (fasting) level of =126 mg%
Dyslipidemia	Serum LDL=130 mg% Serum triglyceride =150 mg%

Table 2: Prevalence of risk factors for CAD in subgroups

Risk factors	Urban Males (n=43)	Urban Females (n=37)	Rural Males (n=41)	Rural Females (n=39)
Smoking	29	19	31	23
Obesity	2	1	3	1
Central obesity	13	9	5	10
Physical Inactivity	37	35	13	34
Family h/o Cornory Artery Disease	1	0	0	1
Family h/o Hypertenstion	1	4	0	1
Family h/o Diabetes Mellitus	2	2	0	1
Hypertension	14	11	17	13
Diabetes	1	2	1	3
Increase LDL	11	15	23	13
Hypertrigly-ceridemia	10	10	11	7

Results

The mean age was 61.41±6.04 years with maximum individuals in the age group of 55-59 years. The prevalence of smoking was 63.75%, more in males 71.42% (P value=0.048) and in rural population 67.50% (P value<0.05). The prevalence of sedentary workers

was 80% out of which 57.0% were in urban group. Generalised obesity was observed in 4.40% subjects; while the prevalence of central obesity was seen in 23.12% individuals. The prevalence of central obesity was more in urban group 27.50%) (P value<0.05). Diabetes was detected in 4.37% subjects. The prevalence of increase LDL was 38.75%, while hypertriglyceridemia was seen in 23.75% subjects. (Table 2).

Discussion

There was high prevalence of smoking in the present study as compared with earlier Indian studies (6,7). No correlation was found between socioeconomic status and smoking in our study .The prevalence of central obesity was more common in urban group as compared to rural group because of less physical activity in the former. There was a positive correlation between socioeconomic status and central obesity because of intake of high fat content in the diet and prevalence of sedentary lifestyle in higher socioeconomic group. The maximum prevalence of sedentary lifestyle was seen in urban males while rural males were more physically active. The difference was due to the fact that most of the urban males were retired government servants, while most of the rural males were farmers engaged in heavy physical activities. However a western study i.e. Canadian Heart Health Survey showed a much less prevalence of sedentary lifestyles in elderly population (8). This difference may be due to more active lifestyle and more participation in leisurely activities by the elderly population in western countries. The prevalence of hypertension was found to be more in rural males unlike previous studies (6).

The prevalence of diabetes was similar to previous studies (6,7,9).The prevalence of increase LDL was more in rural males. This may be due to the fact that they consume high fat content diet since childhood. But no correlation was seen between socioeconomic status and dyslipidemia. Also no correlation was found between obesity and dyslipidemia which is unlike earlier

studies (6,7). Only 2.5% subjects had none of the risk factor. The number of subjects who had more than or equal to 2 risk factors were 153 (95.70%) which was very high as compared to previous studies (6,7,9,10). There was no difference between the prevalence of number of risk factors among urban and rural population. This may be due to the unawareness about the CAD risk factors among the subjects. The two most prevalent risk factors were physical inactivity and smoking reflecting the sedentary habits and lack of awareness regarding harmful effects of smoking.

Conclusion

The present study show that the prevalence of risk factors for CAD are high both in rural and urban population. These risk factors are widely prevalent in Indian population irrespective of cultural or socioeconomic differences. The two most common risk factors are sedentary lifestyle and smoking. These risk factors are modifiable and can be corrected by changing the lifestyles. Therefore the routine screening after the age of 50-55 years for the prevalence of these risk factors should be mandatory. Preventive efforts can have a greater effect on the cumulative life time morbidity and mortality. This can be best achieved through mass media to educate urban and rural population both regarding the risk factors, ways to prevent them by dietary modification exercise and meditation, and to create a toxic free society.

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