Pak Heart J

FREQUENCY OF RISK FACTORS FOR CARDIOVASCULAR DISEASE AMONGST PEOPLE WORKING IN SECRETARIATE

Rafiullah Jan[1], Farooq Ahmad[2], Muhammad Saqib Qureshi[3], Ibrahim Shah[4], Shah Zeb[5], Mohammad Hafizullah[6]

[1-6]Department of Cardiology, Lady Reading Hospital and Khyber Medical University, Peshawar - Pakistan

Address for Correspondence:
Dr. Rafiullah Jan,
Department of Cardiology,
Lady Reading Hospital, Peshawar - Pakistan

E-mail: rafiullah.lrh@gmail.com

Contribution
All the authors contributed significantly to the research that resulted in the submitted manuscript.

All authors declare no conflict of interest.

ABSTRACT

Objectives: To find out frequency of various risk factors for cardiovascular disease (CVD) amongst people working in provincial secretariate of Khyber pukhtoon khawa.

Methodology: This was a cross-sectional study involving provincial secretariate personale recruited in Peshawar Heart Study (PHS). All participants were interviewed in detail for coronary artery disease risk factors including diabetes mellitus, hypertension, smoking and family history. Their blood pressure, body mass index (BMI) and waisthip ratio were measured. Their random blood sugar, total cholesterol and ECG was obtained.

Results: A total of 275 secretariate personale were included in the study. Their mean age± SD was 39.85±9.875 years. Male were 274(99.6%) and Female were 1(.4%). Married personale were 233(84.7%) while unmarried were 41(14.9%).Frequency of risk factors included diabetes mellitus(5.1%) ,hypertension(17.1%) ,smoking(19.6%) ,hypercholesterolemia(22.9%) ,and positivefamily history for CAD(20.72%) respectively . Mean BMI±SD was 25.45±4.24;those who do not exercise were 86(31.3%).

Conclusion: We found that risk factors for cardiovascular diseases like lack of exercise, smoking, hyperlipidemia, Obesity and hypertension are quite frequent in this group.

Key Words: CVD risk factors, BMI, Wait/Hip ratio, smoking, Hypercholesterolemia.

INTRODUCTION

The incidence of cardiovascular disease is increasing at an alarming rate worldwide and is now consider as leading cause of death in both developing and developed countries.[1,2]

In the United States, heart disease and stroke, the principal components of CVD, rank first and third respectively, among the leading causes of death. An estimated one in three U.S. adults (about 71.3 million) have one or more types of CVD[1-3].

South Asia (India, Pakistan, Bangladesh, and Nepal) comprises 25%of global population yet contribute nearly 60% of the cardiovascular diseaseburden.[4] The prevalence increases with advancing age and varies within racial, ethnic, geographic, and sociodemographic groups. Although advancing age is the most powerful risk factor for CVD, about 62 percent of adults living with CVD are younger than age sixty-five. In particular, men and women ages 55 to 64 are a special concern.[2-5]

Among the main risk factors predisposing to cardiovascular disease, Diabetes Mellitus, Hypertension and Dyslipidemia are the leading factors.[6]Several behavioral risk factors like overweight, physical inactivity, smoking is alsoassociated with the development of CVD. [1-6]

Appropriate preventive practices are of central importance in managing all risk factors for atherosclerotic cardiovascular disease. It has beenwell documented that controlling modifiable riskfactors for CVD improves mortality and morbidity from cardiovascular diseases.[7]

The aging population, obesity epidemic, under use of preventive strategies and sub-optimal control of risk factors could exacerbate the future cardiovascular diseases burden. Increased adherence to clinical and community-level guidelines and renewed emphasison policy, environmental and lifestyle changes will becrucial for its effective prevention and control. Although western data has clearly shown relationship of various occupational groups and cardiovascular diseases risk factors, local data is scarce in this regard.[8]

Aim of Peshawar Heart Study is to study the pattern of cardiovascular risk factors among various occupational groups serving in Peshawar and present study focuses on secretariate personal.

METHODOLOGY

This was a cross-sectional study involving secretariat personal recruited in Peshawar Heart Study (PHS). All participants were interviewed in detail including family history, past medical history, smoking history and medications history. Dietary habits were explored.

All participant's pulse, blood pressure, BMI and waist hip ratio was determined. Family history of CAD was considered to be positiveif first degree relative had CAD at the age (men < 50 and women < 60).Body mass index (BMI) and waist: hip ratio was calculated. Blood pressure was checked using mercury sphygmomanometer in sitting position with supported left arm. 12 Lead ECG was performed using BTL-085 machine. Random blood sugar was checked using Abott Gluco meter (Medisence Optium) by finger prick method. Serum random cholesterol was checked using Accutrend GC portable device (Roche) by finger prick method.

Data was analyzed for cardiovascular risk factors like hypertension, diabetes, smoking, Body mass index, waist: hip ratio, exercise, hypercholesterolemia and family history using SPSS Version 13. Hypertension was defined according to the JNC 7 Criteria.[9] Diabetes was defined according to WHO Criteria.[10] History of smoking was considered to be positive, if 5 cigarettes were taken per day for ≥ 6 Months. Hypercholesterolemia was defined according to ATP III guidelines.[11]

RESULTS

A total of 275 people from secretariat people were screened and interviewed. Mean age was 39.85±9.875 years. Male were 274 (99.6%) while females were 1(.4%) .Married were 233 (84.7%), while 41(14.9%) were unmarried.

Analyzing number of working hours, it was foundthat 254 (92.4%)were doing 8 hours duty while only 21(7.6%) are doing more than 8 hours. Active smokers were 54(19.6%) While non smoker were 202(73.5%). Mean BMI was 26.52±4.59while 58(35%) were having BMI between 25-29.9.36 (23.5%) were above 30 BMI. Waist: Hip ratio was food pattern was also analyzed in detail and it was found that secretariate personal consuming 50 to 500 grams of meat on average daily basis were 155(56.3%) while 35(12.72%) people consumed meat in excess of 500grams. About 200 (76.4%) were consuming largely vegetables in excess of 1400 grams a day. About fruit consumption 182(90.2%) were consuming 1000gm and only 27(9.85) were consuming more than 1000gm of fruit.

The secretariate people were asked about their daily prayers and it was found that 245(89.1%) were offering prayers on regular basis while 24(8.7%) were on irregular basis and those who do not pray at all were 6(2.2%). Mean systolic BP was 126±15.83 mm Hg while mean diastolic BP was 87.77±11.93mmHg. Mean cholesterol was 162.53±46.65mg/dl. Mean random blood sugar was 109±37.46 mg /dl. Out of those who were having regular exercise schedule were 189(68.7%) those who do not exercise were 86(31.3%). Analyzing the risk factors it was found that diabetes mellitus(5.1%), hypertension(17.1%), smoking(19.6%), hypercholesterolemia(22.9%), and positive family history for coronary artery disease (20.72%).

Table 1: Baseline characteristics of 275 Secretariate Personale

Variables	Frequencies (%)	Mean±SD
Mean Age(years)	-	39.85±9.875
Gender		
Male	274 (99.6)	-
Female	1(.4)	-
Marital Status		
Married	233 (84.7)	-
Unmarried	41(14.9)	-
Clinical and Laboratory Characteristics		
Mean Waist/hip ratio	-	0.94±0.18
BMI(kg/m^2)	-	26.52 ± 4.59
(25 -29.5)	58 (35)	-
(≥30)	36(23.5)	-
Mean Pulse±SD	-	76.55±9.34
Mean Systolic BP(mmHg)	-	126±15.83
Mean Diastolic BP(mmHg)	-	87.77±11.93
Mean random blood sugar	-	109±37.46
Mean Random Blood cholesterol	-	162.53±46.65
Characteristics		
Hypertension	47(17.1)	-
Smoking	49(19.6)	-
Diabetes mellitus	14(5.1)	-
Dyslipidemia	63(22.9)	-
Family history of CAD	57(20.72)	-
Sedentary life style	86(31.3)	-
Obesity	155(56.4)	-
Metabolic Syndrome	48(17.4)	-

DISCUSSION

Several population studies have shown that individuals with low levels of established CVD risk factors demonstrate exceptionally low incidence rates of CVD. The major modifiable risk factors for coronary heart disease include smoking, hypercholesterolemia, hypertension, glucose intolerance, obesity, psychosocial factors, and regular exercise. [12]

In this study we have looked into different risk factors which was prevalent in secretariate personal as there is no data available regarding this group of population. Smoking remains the number one preventable cause of CAD.[5,6] Much of the preventive strategies in western countries have been directed against this habit including cessation of smoking in public areas including hospitals, parks, bus and train station etc.

We found considerable number of people 54(19.6%) working in secretariate were addicted to smoking which is comparable to Qureshi et al in his study of doctors.[13] A similar prevalence of smoking was reported by jabar et al. amongst in lawyer.

We found that considerable numbers of people in secretariate group were having hypertension. A study conducted in Saudi Arabia reported a much lower incidence of hypertension but there study population was relatively young as in Qureshi et al.[13,14]

We found that about 22.5% of the people in sectariarate is having cholesterol level >180mg/dl which is less than stated by ishaq et al which was 31% in the population of Karachi but is similar to the study of Qureshi et al.[13,15]

In our study we found considerable numbers of 58 (35%) were having BMI more than 25. Another study reported a much higher prevalence of obesity (64%).[16]

Diabetes mellitis was present in 5.6% population in this study was is much lower than what has been described in lawyers.[16] The possible reason for this is younger population in our study.

Both primary and secondary CVD patients can benefit from the development of a regular aerobic exercise program, dietary modifications, and weight loss.[17,18]

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We also found that 86(31.3%) were not having any regular exercise schedule and this could be partly contributing to obesity in this group. Lack of exercise is also important independent risk factors as already mentioned. Mortality caused by coronary heart disease (CHD) was reported to be inversely related to the level of physical activity and less in subjects who exercise regularly. There are reports indicating that physical training done less frequently than 2 days per week generally produces no meaningful change in VO2max.[19,20]

In our study we found that 31.3% were not doing exercise on regular bases which is similar to jabar et al and Qureshi et al.[13, 16]

Improving diet and lifestyle is a critical component of the American Heart Association's strategy for cardiovascular disease risk reduction in the general population. Specific goals are to consume an overall healthy diet; aim for a healthy body weight; aim for low cholesterol and triglycerides; aim for normal blood pressure; aim for a normal blood glucose level; be physically active; and avoid use of and exposure to tobacco products.[21,22]

There commendations are to balance caloric intake and physical activity to achieve and maintain a healthy body weight; consume a diet rich in vegetables and fruits; choose whole-grain, high-fiber foods; consume fish, especially oily fish, at least twice a week; limit intake of saturated fat to <7% of energy, and cholesterol to <300mg/day by choosing lean meats and vegetable alternatives, fat-free (skim) or low-fat (1% fat) dairy products and minimize in take of partially hydrogenated fats; minimize intake of beverages and foods with added sugars; choose and prepare foods with little or no salt.[23,24]

CONCLUSIONS

We found that risk factors like physical inactivity and sedentary life style, obesity and hypertension were quite frequent in this group. Preventive measures like motivation regarding regular exercise, awareness about maintaining a healthy weight and BMI. Stress full life events could be addressed by regular prayers and recitation of the Qur`an.

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