PREVALENCE OF RISK FACTORS FOR CARDIOVASCULAR DISEASES AMONG JOURNALISTS IN PESHAWAR - THE PESHAWAR HEART STUDY

Ahmad Fawad, Mohammad Hafizullah, M. Saqib , Adnan Mahmood Gul, Hikmatullah Jan, Mohammad Faheem

Department of Cardiology
Lady Reading Hospital Peshawar - Pakistan

ABSTRACT

Objective: *To assess the prevalence of risk factors for cardiovascular diseases in journalists working in Peshawar*

Material and Methods: *This was a descriptive study involving journalists working in Peshawar 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 participants' pulse, blood pressure, BMI and waist hip ratio was determined. Their random blood sugar and total cholesterol was checked. Twelve lead ECG was recorded. Data was analyzed for cardiovascular disease risk factors.*

Results*: Total of 150 Journalists were interviewed at press club Peshawar. Mean age was 32± 7.7 years. Current smokers were 36% (n=54). Naswar was consumed by 6 % (n=10). Family history of cardiovascular disease was present in 30% (n=46). Only 26% (n=40) took regular exercise. Mean Body Mass Index was 25.68 ± 4.78. Mean W/H ratio was 0.91 ± 0.03. Mean systolic blood pressure was 115. 31 ± 14.63 mmHg while 20% (n=31) had systolic of > 140 mmHg. Mean diastolic blood pressure was 75.30 ± 9.92 mmHg. Mean cholesterol was 158 .53 ± 20.31 mg%. Mean random blood sugar was 98. 28±32.12 mg% with five journalists having more than 180mg%.*

Conclusion: *Risks factors for cardiovascular disease like obesity, smoking, sedentary life style, hypercholesterolemia and hypertension were found prevalent among the journalists working in district Peshawar.*

Key words: *Cardiovascular disease (CVD), Risk factors, Body Mass Index (BMI), Waist/Hip ratio (W/H ratio), Smoking, Journalists.*

INTRODUCTION

Undoubtedly cardiovascular diseases (CVD) including coronary heart diseases and stroke remain one of the leading causes of death in United States and western countries, but more than two thirds of deaths will occur in developing countries. In South East Asians, cardiac diseases occur at a younger age and follow a malignant course [1-3].

Appropriate preventive practices are of central importance in managing risk factors for atherosclerotic cardiovascular disease. Indeed, many of the current dietary guidelines for the health of general population aim to prevent cardiovascular diseases. Dietary interventions can benefit patients at higher risk because of specific conditions like dyslipidemia, hypertension and obesity [1, 2, 4].

Several behavioral risk factors like over weight, physical inactivity, smoking, hypertension and diabetes mellitus are also associated with the development of CVD [2,3]. The socioeconomic gradient in health is well described, with poorer health associated with lower socioeconomic position. This gradient is particularly evident for coronary heart disease [4,5].It has been well documented that patients with higher education about health had lower global risk than those with

lower education. This should be considered in clinical practice[4-6].

Most Studies of the relation between work and socioeconomic groups and ischemic heart disease were performed in western populations and significant effect has been reported in similar studies conducted in the Asian population[7-12].

In France, differences in cardiovascular risk factor distribution have been observed which might be responsible for some disparities in cardiovascular mortality between social categories[6]. Lang et al studied to assess the differences in CVD and cerebrovascular diseases mortality according to social category, and to determine their trends over the last 20 years in France[6]. In men, the inequalities have increased over the last two decades and have not been reduced for CVD. The category of employees and workers were found to be at special risk for premature cardiovascular disease mortality. Among women, the trends were less clear, although the tendencies were the same. An increasing disparity between active and non-active people suggests that a health-related selection process towards unemployment might have contributed to the decreasing mortality rates observed among employees and workers.[5]

Peshawar Heart Study is aimed to study pattern of various cardiovascular risk factors in different occupational groups of Peshawar district. Present study focuses on journalists working in Peshawar.

MATERIAL AND METHODS

This was a descriptive study involving journalists (Press club Peshawar) recruited in the project, Peshawar Heart Study (PHS) which is an on going project, started in 2007, being conducted by department of cardiology Lady Reading hospital Peshawar, where different occupational groups of district Peshawar are being studied. These include teachers, journalists, prisoners, doctors, nurses, meat sellers, shop keepers, lawyers, bakers, etc. Approximately 200 participants were randomly selected from each group. Present study is focused on Journalists.

Journalist either belonging to Peshawar or working in Peshawar and above the age of 16 years were included in study. All other journalists were excluded. Informed consent was taken from all participants. 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, body mass index (BMI) and waist hip ratio(W/H ratio) was determined. Family history of coronary artery disease (CAD) was considered to be positive if first degree relative had CAD at the age (men < 50 and women < 60

Blood pressure was checked using mercury sphygmomanometer. 12 Lead ECG conducted using BTL-085 portable machine. Random blood sugar was checked using Abott Glucometer (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, BMI, W/H ratio, exercise, hypercholesterolemia and family history etc using SPSS Version 13. Hypertension was defined according to the JNC 7 (Joint National Committee for hypertension) Criteria. Diabetes was defined according to WHO (world health Organization) criteria. History of smoking was considered to be positive on the basis if 5 cigarettes were taken per day for $\geq$ 6 Months. Hypercholesterolemia was defined according to ATP-III (Adult Treatment Panel III) guidelines.

RESULTS

A total of 150 Journalist were interviewed at press club Peshawar. Mean age was 32$\pm$ 7.7 years. Male were 98.7% (n=148) while females were 1.3% (n=2) (Table 1). Unmarried were 26.0% (n=39) while 73.3 % (n=110) were married and one was widowed. Five journalists were government employees while rest were non government employees. Number of working hours were explored and it was found that 40% (n=60) were working up to 8 hours a day while 43.7 % (n=65) were working between 8 to 12 hours and 16.3% (n=25) reported working hours more than 12 hours. Main working pattern / style at work place was sitting 48% (n=73). Current smokers were 36% (n=54), non smokers were 58 % (n=86) while naswar was consumed by 6 % (n=10) (Table 1).

Food pattern was investigated and it was found that 95.3% (n=143) journalists take regular break fast including tea and roti while 4.7% (n=7) did not take any break fast on daily basis.

About lunch and its source it was found that 45.3% (n=68) bring their lunch from home while 54.7% (n=82) take their lunch from hotels/canteen etc. Journalists taking meat on regular daily basis were about 2.0% (n=3) while 7.3% (n=11) reported 5 days a week, 6.0% (n=9) 4 times a week, 16.3% (n=24) reported twice a week, 20.7% (n=31) reported once weekly while 26.0%(n=39) were not consuming any meat weekly on regular basis.

Regular prayers were offered by 67.3%

Table 1: General characteristics of the population (n=150)

	Number	Percentage
Gender		
Male	148	98.7
Female	2	1.3
Marital Status		
Married	110	73.3
Unmarried	39	26.0
Widow	1	0.75
Work Duration		
≤ 8 hours	60	40
8-12 hours	65	43.7
≥ 12 hours	25	16.3
Tobbaco Consumers		
Non Smokers	86	58
Smokers	54	36
Naswar Users	10	6

(n=101) journalists while 27.3% (n=41) reported on irregular basis and 5.3 % (n=8) reported no prayers at all.

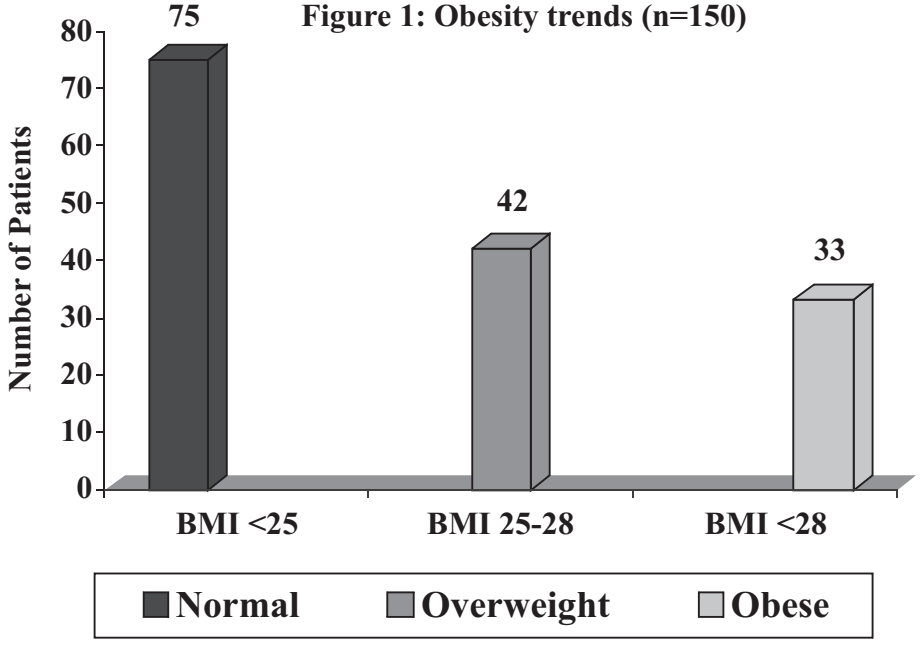
Family history was also explored and it was found that it was positive for hypertension in 52% (n=78), for cardiovascular accidents 18% (n=27), for peripheral vascular diseases 0% and sudden cardiac death 11 (n=7.3%).

Only 26% (n=40) took regular exercise. Main reason of not having regular exercise was lack of time (71.3%). Public transport was used by 43 % (n=68) as mean of going to office from their residences. Car was used by 18% (n=27), 1.3 % (n=2) were using bicycle, 33.3 % (n=50) were using motor bike, while only 4.0% (n=6) were daily walkers.

Mean BMI was 25.68 + 4.78. 50% (n=75) journalist had BMI < 25, 28% (n=42) had it between 25 to 28 while 22 % (n=33) were above 28(Figure 1). Mean W/H ratio was 0.91 + 0.03.

Mean systolic BP was 115. 31 + 14.63 mmHg while 20% (n=31) had systolic of >

Figure 1: Obesity trends (n=150)



140mmHg. Mean diastolic BP was 75.30 + 9.92 mmHg. Diastolic BP more than 90mmHg was noted among 14 % (n=21). Mean Cholesterol was 158 .53 + 20.31 mg%. Eight percent (n=12) had total cholesterol of 200mg% or more. Known hypertensive were 10% (n=16). ECG was analyzed and was found to be with in normal limits in 128 participants and was abnormal 22 participants. Among abnormal cases, 9 persons had left axis deviation. Four participants had left axis deviation with left ventricular hypertrophy. One had sinus bradycardia and he was athlete. ST and T wave inversion was found in 5 people.

Mean Random Blood Sugar (RBS) was 98.28+32.12 mg%. Five had RBS of >180mg%. One was a known diabetic.

DISCUSSION

Extensive clinical and statistical studies have identified several factors that increase the risk of CVD. Non modifiable risk factors were male gender, increasing age, positive family history for CVD and Asian ethnicity[13-16] while modifiable risk factors were Diabetes Mellitus, Hypertension, Dyslipidemia, Obesity including abnormal waist / Hip ratio, smoking , sedentary life style and diet rich in saturated fats. Much of the attention has been focused on these modifiable risks factors, to identify them early and then address them accordingly [17-20].

In our study, we found that most of the journalists (74%) live sedentary life style with no regular exercise pattern in their daily life. They use either car or motor bike or public transport as a mean to reach their working place which further diminishes their chances of having some exercise. Smoking has been a notable habit in this group of occupation.

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[4, 5]. There are reports indicating that physical training done less frequently than 2 days per week generally produces no meaningful change in Vo_2max.

In this study 50% of journalists were either overweight or obese with BMI more than 25 and abnormal waist hip ratio (mean 0.91+ 0.03). This is significant finding and should be addressed accordingly. BMI is an easily obtainable measure that remains widely used as an indicator of overweight and obesity[12]. Although other adiposity measures such as waist circumference may better capture the adverse metabolic changes that are likely to mediate the association between obesity and coronary heart disease. Similarly waist to hip ratio has been well validated measure of obesity and over weight and has been considered as an independent risk factor for coronary artery disease and is easily reproducible measurement.

The prevalence of overweight and obesity is increasing in most industrialized countries[7-9]. Hypertension, hypercholesterolemia, and diabetes are among the clinical conditions that are important mediators of this association[8-10]. Thus, obesity is an appropriate target for primary prevention efforts because its modification has the potential to influence several important clinical conditions. However, it is clear that achieving weight loss or preventing weight gain with aging is difficult for most individuals. Therefore, investigations of behavioral modifications that might reduce the impact of obesity is important[11-13].

Most of the journalists were consuming meat as a major part of their weekly food instead of vegetables. This is a habit which has strong impact on their risk of developing coronary heart disease in future.

Improving diet and lifestyle is a critical component of the American Heart Association's strategy for cardiovascular disease risk reduction in the general population[12,13]. 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. The recommendations 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 <300 mg/day by choosing lean meats and vegetable alternatives, fat-free (skim) or low-fat (1% fat) dairy products and minimize intake of partially hydrogenated fats; minimize intake of beverages and foods with added sugars; choose and prepare foods with little or no salt[6-11]; Hypertension was found to be common in this group (journalists) and was found in 34%. Interestingly most of them were completely unaware of the situation. About 3.3% (5) were diabetic with RBS more than 180 mg% and again it was undiagnosed. It was of interest to note that most of the journalists despite belonging to an educated group of society were having little insight of the importance of regular exercise, and adverse impacts of obesity, sedentary life style, smoking, hypertension and diabetes.

Metabolic syndrome is a cluster of cardio-vascular risk factor abnormalities associated with increased risk of type 2 diabetes mellitus, cardiovascular

disease, and all-cause mortality. Elevated measurement of ≥ the following cardiovascular risk factors define the syndrome: waist circumference, blood pressure, fasting glucose, high-density lipoprotein (HDL) cholesterol, and triglycerides[14-19].

Kivimäki M et al. suggested that current best-practice interventions to reduce classic coronary risk factors, if successfully implemented in both high and low socioeconomic groups, could eliminate most of the socioeconomic differences in coronary heart disease mortality. Modest further benefits would result if the classic coronary risk factors could be reduced to primordial levels for the whole population[20].

CONCLUSION

Cardiovascular risk factors are prevalent in journalists of Peshawar including obesity, sedentary life style, smoking, high fat diets and hypertension and alarmingly most of the journalists were completely unaware of these.

RECOMMENDATION

Preventive measures are necessary to address various risk factors in this group. They should be encouraged to change their life style including cessation of smoking, taking regular daily exercise and changing eating habits with more stress on vegetables, fruits and unsaturated fats including fish consumption. More awareness is needed regarding importance of keeping a healthy weight and BMI and keeping risk factors like hypertension, diabetes mellitus and dyslipidemia under tight control both pharmacologically and non pharmacologically.

REFERENCES

1. Avendano M, Kunst AE, Huisman M, Lenthe FV, Bopp M, Regidor E, et al. Socioeconomic status and ischaemic heart diseases mortality in 10 western European populations during 1990s. Heart 2006;92:461-7.
2. Thurston RC, Kubzansky LD, Kawachi I, Berkman F. Is association between socioeconomic Position and Coronary Heart Diseases Stronger in women than in men? Am J Epidemiol 2005;162:57-65.
3. Council of preventive cardiology. National Guidelines of Preventive cardiology. Karachi: Pakistan Cardiac Society; 2007.
4. Hu FB, Willett WC. Optimal diets for prevention of coronoray heart disease. JAMA 2002;288:2569-78.
5. Hu FB, Rimm EB, Stampfer MJ, Ascherio A, Spiegelman D, Willett WC. Prospective study of major dietary patterns and risk of coronary heart disease in men. Am J Clin Nutr 2000;72:912-21.
6. Lang T, Ducimetiere P. Premature cardiovascular mortality in France: divergent evolution between social categories from 1970 to 1990. Int J Epidemiol 1995;24: 331–9.
7. Schaefer EJ. Lipoproteins, nutrition and heart disease. Am J Clin Nutr 2002;75:191-212.
8. Lutsey PL, Steffen LM, Stevens J. Dietary intake and the Development of the metabolic Syndrome:the Atherosclerosis Risk in Communities study. *Circulatio*n 2008;117:754-61.
9. Third report of the National Cholesterol Education Program (NCEP): Expert Panel on Detection, Evaluation and Treatment of High Blood Cholesterol in Adults (Adult Treatment Panel III) final Report. Circulation 2002;106:3143-421.
10. Lenfant C, Chobanian AV, Jones DW, Rocella EJ. Seventh report of the Joint National Committee on prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7): resting the hypertension sails. Hypertension 2003;41:1178-9.
11. Shukla PR, Singh RH. Occupation and some risk factors of coronary heart disease. Indian J Community Med 1999:30:85-92.
12. Reddy KS, Prabhakaran D, Jeemon P, Thankappan KR, Joshi P, Chaturvedi V, et al. Education Status and cardiovascular risk profile in Indians. Proc Nati Acad Sci 2007;104:16263-8.
13. Mayer O, Simon J, Heidrich J, Cokkinos DV, De Bacquer D. Educational level and risk Profile of cardiac patients in the EUROASPIRE II Substudy. J Epidemiol Community Health 2004;58:47-52.
14. Ramsay SE, Whincup PH, Morris RW, Lennon LT, S Wannamethee. Are Childhood socio-economic circumstances related to coronary heart disease risk? Findings from a population based study of older men. Int J Epidemiol 2007; 36:560-6.
15. Emberson J, Whincup P, Morris R, Walker M. Reducing social inequalities and the prevention of coronary heart disease. Int J Epidemiol 2004;33:297-8.
16. Chen JD,Cheng TJ, Lin YC, Hsiao ST. Job categories and acute ischemic heart disease: a hospital-based, case control study in Thaiwan. Am J Ind Med 2007;50: 409-14.
17. Hahn RA, Heath GW, Chang MH. Cardiovascular disease risk factors and preventive practices among adults-United States, 1994: a behavioral risk factor atlas. Behavioral risk factor surveillance system state Coordinators. MMWR CDC Srveill Summ

1998 11;47:35-69.

18. World Health Organization. Definition, Diagnosis and Classification of Diabetes Mellitus and its Complications: report of a WHO Consultation. Geneva:World Health Oorganization;1999.
19. Mensah GA. Eliminating disparities in cardiovascular health: six strategic imperatives and a framework for Action. Circulation 2005;10:1332-6.
20. Kivimaki M, Shipley MJ, Ferrie JE, Singh-Manoux A, Batty GD, Chandola T, et al. Best-practice of interventions to reduce socioeconomic inequalities of coronary heart disease mortality in UK: a prospective occupational cohort study. Lancet 2008;372:1648-54.

Address for Correspondence:
Dr Ahmad Fawad
Cardiology Department
Lady Reading Hospital Peshawar - Pakistan
Email: cardiogenic73@gmail.com