HYPERTENSION AND ITS DETERMINANTS IN TEACHING STAFF OF PESHAWAR UNIVERSITY

IQBAL WAHID¹, HAMID HUSSAIN², SADULLAH AFRIDI³, ZIA UR REHMAN², SALEHA AFRIDI³, NAEEMULLAH⁴

1. CPSP Regional Office, Peshawar ,

2. Department of Community Medicine, Khyber Medical College, Peshawar ,

3. Sarhad Institute of Health Sciences, Peshawar.

4. Department of Community Medicine, Saidu Medical College, Swat.

ABSTRACT

Objectives: Hypertension is a chronic medical condition. Some observers say that 20% of population aged 18-74 years suffered from hypertension and 1/3rd of them are not aware that they are hypertensive. More than 70% of all hypertensive patients (85% in rural areas) in Pakistan are not aware of their disease.

Methods: A cross-sectional study design was used to estimate the prevalence, awareness and factors associated with hypertension. Sample of 500 teachers was selected. Data were analyzed using statistical package for social sciences version 16.0.

Results: The prevalence of hypertension was found in 128/500 (25.6%) teachers. Out of these 128, 50(40%) were not aware of their hypertensive status. Old age, family history of hypertension, obesity, lack of exercise, smoking and living stressful life are pre-determinants of hypertension in the teachers.

Conclusion: The teachers should get their blood pressures checked on a regular basis, so that any increase in blood pressure can be properly monitored. The teachers should be encouraged to take walks or do light exercise regularly during their free time. This will help them deal with their sedentary lifestyle and obesity. Lowering weights will concurrently deal with hypertension.

Key words: Hypertension, Prevalence, Awareness, Teachers, University, Peshawar

INTRODUCTION

High blood pressure, termed as hypertension is a chronic medical condition that is a leading cause of morbidity and mortality. According to the seventh report of the Joint National Committee on Hypertension, there are approximately one billion hypertensive individuals in the world. Even though the burden of hypertension is currently centered in economically developed countries (37.3%), developing countries will feel a greater impact due to their larger population proportion. Indeed, estimates indicate that up to three-quarters of the world's hypertensive population will be in economically developing countries by the year 2025¹.

This disease is usually asymptomatic until the damaging effects of hypertension are observed. Therefore, this disease is sometimes called the "silent killer". Dietary and lifestyle changes can improve blood pressure control and decrease the

risk of associated health complications³.

According to the latest update of the National Health and Nutrition Examination Survey, (NHANES III), 20% of participants aged 18-74 years suffered from hypertension and 1/3rd of them are not aware that they are hypertensive.

The National Health Survey of Pakistan (NHSP), conducted survey from 1990 to 1994, showed that hypertension affects 18% of adolescents above 15 years of age and 33% of adults above 45 years of age; and more than 70% of all hypertensive patients (85% in rural areas) in Pakistan are not even aware of their disease. Undiagnosed, untreated, and uncontrolled hypertension clearly places a substantial strain on the health care delivery system^{3,4}.

Teachers are considered to be knowledgeable persons and can reflect the health trend in a society.

We therefore thought out this segment of the society, important, to estimate the prevalence of hypertension and also to assess the proportion of teachers who are unaware of their disease status⁵. We also evaluated the factors associated with hypertension in the teachers of University of Peshawar.

MATERIAL AND METHODS

A cross-sectional study was designed to estimate the prevalence, awareness and simultaneously collect information about factors associated with hypertension among teachers of University of Peshawar (UoP). The total teaching staff of the university and all other colleges inside the campus is about 4000. All the teachers were eligible to be enrolled.

The response variable i.e. status of hypertension was measured as continuous and then converted in to Dichotomous i.e. a person Having hypertension or no hypertension. A subject was said to be hypertensive if systolic blood pressure (SBP) was ≥ 140 mmHg and/or diastolic blood pressure (DBP) ≥ 90 mmHg and/or if the subject was taking anti hypertensive agents⁶.

The proportion of hypertensive was taken as 22%⁷. Making an allowance for non response, 500 teachers were selected. Each selected teacher was interviewed in utmost privacy. Data were analyzed using statistical package for social sciences (SPSS) version 16.

Respondents were considered as overweight (pre-obese) if their BMI was between 25 kg/m^2 and 30 kg/m^2 , and obese when it was greater than 30 kg/m^2 . $18.5\text{-}24.9 \text{ kg/m}^2$ was considered to be normal. Respondents were considered to be current smokers if they smoke one cigarette per day for the last 6 months.

RESULTS

Most teachers were 361 married (72.2%), 115 (23%) were unmarried and 24 (4.8%) were either

divorced or widowed. Three hundred and fifty three (70.6%) were males. There were 39 (8%) professors, 82 (16%) associate professors, 97 (24%) assistant professors, 169 (33%) lecturers and 113 (22%) demonstrators.

One hundred and thirty three (26%) teachers were smokers. Only 12 (2.4%) were taking meat rich diet while majority 409 (81.8%) were taking mixed diet, 79 (15.8%) were predominantly vegetarians. Only 21 (4%) were using salt free diet and 87 (17%) were taking mild quantities of salt while the 79% teachers were using excessive quantities of salt. About 406 (81%) teachers were not doing exercise regularly. One hundred and fifty five (34%) teachers were checking their blood pressure regularly.

The prevalence of hypertension was found in 128 (25.6%) teachers. Out of these 50 (40%) were not aware of their hypertensive status.

Uni-variate analysis of Hypertension with different factors associated with hypertension					
1) Relationship between BMI & Hypertension					
Normal weight	279	72	351	1	-
Over weight	76	41	117	2.1	0.000
Obese	17	15	32	3.41	0.000
2) Relationship between Smoking & Hypertension					
YES	84	49	133	2.13	0.001
NO	288	79	367	1	-
3) Relationship between High Stress & Hypertension					
Stress present	306	112	418	12.83	0.00
No stress	66	16	82	1	-
4) Relationship between Exercise & Hypertension					
Sedentary Lifestyle	23	15	38	3.59	0.00
Average Lifestyle	228	91	319	2.19	0.00
Active Lifestyle	121	22	143	1	-
Total	372	128	500		

DISCUSSION

Teachers as a population are on one hand better educated and more likely to be aware of general health problems and preventive measures that can be taken for them, but on the other hands they are more prone to the disease because of their predominantly sedentary lifestyle and having a highly stressful job

According to our study the prevalence of hypertension in teachers of University of Peshawar was 25.6%. This is slightly higher than the worldwide prevalence but as compared to the prevalence within the country (33%) it is less than the general population. Many factors may influence this but mainly teachers being well educated are more aware of general health problems and take preventive measures but at the same time they face many risk factors. Another factor which we have to consider before comparing these results to that of the general population is that in our population the upper age limit was 60 years. While in general population one finds a significant number of older people and it is a fact that hypertension is related to age, thus younger age of selected teachers (retirement age is 60 years) may be playing a role in the lower prevalence of hypertension.

In our study about 40% of those teachers who were suffering from hypertension were not even aware of their hypertensive status. The general consensus up till now was that teachers being educated may care about their health more than illiterate persons, but the situation is alarming for the future, not only about the teacher but also the general population. If the situation is so disappointing in teachers then we can just imagine the plight of the ignorant general population. This may be just the tip of the ice berg. We have to conduct quick surveys to estimate the prevalence of this disease in different segments of the general population and then arrange for steps to bring not only awareness in the common man but also to formulate steps to control.

Teachers in age group less than 30 years had a prevalence of 10.9%. While as the age increases so does the hypertension. Teachers of more than 50

years were significantly hypertensive as compared to less than 30 years of age. This finding has already been noticed by different researchers in different populations^{8,9}.

Obese and overweight teachers showed a positive relationship with hypertension. In obese subjects the prevalence was 55.6%. This shows that obesity has a major role in development of hypertension^{10,11}. Obesity is a modifiable factor and its control can have positive implications over hypertension.

Smoking was another modifiable factor which had a positive relation to hypertension. Among the smokers (133) prevalence of hypertension was 36% while among non-smokers prevalence dropped to 21%. This showed significant association of hypertension with smoking¹².

Mental stress and tension also acts as a contributing factor for development of hypertension. According to our study results prevalence of hypertension in teachers who said they had highly stressful life was 26.8% as opposed to 19.5% among those who led a stress free life. This is more so important because in habits section of questionnaire when asked about stress, 418 out of 500 (83.6%) subjects answered that they did indeed suffer from high mental stress. This is an important factor and should be looked at in the future. Different strategies should be adopted to decrease the stress of the teachers.

Having a sedentary or inactive lifestyle also contributes to hypertension. Among those leading active life prevalence was 15.4%; among those living average lifestyle, prevalence was 28.6% while those living a sedentary life were having a prevalence of 39.5% which shows a significant role of sedentary lifestyle in development of hypertension¹³.

CONCLUSION AND RECOMMENDATIONS

Old age of teachers, family history of hypertension, being obese, lack of exercise, smoking and living stressful life are pre-

13. Nazir Ahmed, Muhammad Abdul Khaliq, Syed Humayun Shah, Waqas Anwar. Compliance To Anti hypertensive Drugs, Salt Restriction, Exercise and Control of Systemic Hypertension in Hypertensive Patients at Abbottabad. Journal of Ayub Medical College Abbottabad Apr - Jun 2008; 20(2):66-9

For Correspondence:

Dr. Iqbal Wahid
Public Health Officer,
College of Physicians and Surgeons Pakistan
(CPSP), Regional Office, Peshawar