

Prevalence of Hypertension and its Important Risk Factors among Government School Teachers of Nawabshah, Shaheed Benazirabad.

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Abstract

Background: Increased mental stress, lack of exercise, smoking and increased BMI are among the factors related with significant increase in incidence of hypertension. The job of school teacher is sedentary in nature and accompanies mental stress. **Objectives:** To assess the prevalence and risk factors of raised blood pressure among government school teachers of Shaheed Benazirabad. **Study design:** Cross sectional study. **Place of study:** Primary and High Schools of Nawabshah, Shaheed Benazirabad, from Jan 2018 to June 2018. **Material & Methods:** This cross-sectional conducted among school teachers to determine the frequency and risk factors of raised blood pressure among school teachers. Total 230 school teachers from 26 to 59 years of age were randomly selected. The data was collected through convenient sampling technique and on predesigned questionnaire. **Results:** The prevalence of hypertension in this study was 63 (31.7%), while 45 were with pre hypertension (19.6%), and 112 found having normal blood pressure (48.7%). Majority of participants 145 were male 63%, and 85 female 37% in different age groups. The different age groups were 35.65% in age group 25 to 35yrs age, 41.74% in age group 36 to 45 yrs age, 22.61% in age group 46 to 59 yrs. Most of the teachers 180 were from middle class. High school teachers were 124 in the study while 106 teachers were teaching in primary schools. The risk factors for hypertension were noted and found that among 230 study subjects 29.56% were smokers, 61.74% with lack of exercise, 35.65% with obesity, 31.30% with positive family history of hypertension, 25.21% with high salt intake. **Conclusion:** The prevalence of hypertension was more in school teachers. By giving proper health education to teachers regarding risk factors of hypertension it can be prevented and properly controlled.

Key words: Hypertension, Risk Factors, Government, School Teachers, Prevalence

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INTRODUCTION

Cardiovascular diseases are non-communicable diseases, which accounts for nearly half world's huge disease burden. A disease of CVS remains the first cause of death, accounting for 17.3 million deaths per year, a number that is expected to grow to 23.6 million by 2030¹. Hypertension with a frequency of 30% globally in the world is considered a major concern. Hypertension has a direct relationship with multiple health issues and can destroy the heart, kidneys, brain, lungs, and may cause end organ failure. A study conducted on the adult population in 2000 showed that an estimated 26.4% (972 million) adults suffered from hypertension. The number was predicted to increase by approximately 60% in the year 2025 to a total of 29.3% (1.56 billion)². A systematic review estimated that the overall worldwide prevalence of HTN is approximately 26% in the adult population³. Many modifiable

factors contribute to the current high prevalence rates of hypertension. They include overweight and obesity, smoking, physical inactivity, psychological stress, eating food containing too much salt⁴. The overall prevalence rate of raised blood pressure in south east Asian countries is more than 30%, and 1.5 million deaths occurs alone due to hypertension in these countries⁵. In Pakistan hypertension in adult is also common and in a study by Ahmed K found 20.7% adult Pakistan is were hypertensive⁶. The teaching profession is highly stressful occupation due to enhanced psychosocial stress at the work place. Teacher's work overload has been the subject of intense research⁷. The prevalence of hypertension in teachers was found 21.4% while 38.6% of teachers were in pre-hypertension in turkey⁸. In Pakistan in school teachers due to stress at the work place, dietary changes, decreased physical activity there are more cases of hypertension. Hence present study was conducted to elucidate the presence of hypertension its risk factor in school teachers of Shaheed Benazirabad. Hypertension is changeable risk factors of cardiovascular diseases, so control and prevention of hypertension will lead to enhance quality of life of university teachers.

Material & Methods: This cross-sectional was conducted among government school teachers to determine risk factors of Raised blood pressure among school teachers. Total 230 school teachers both males and females from 12 primary and 8 government high schools of boys and girls from Nawabshah with 26 to 59 years of age were selected. Duration of Study was from Jan 2018 to June 2018. Study participants were selected through convenient sampling technique after considering inclusion and exclusion criteria. Informed consent was taken from participants. Non willing participants were excluded from the study. Detailed history

about risk factors was taken, and then physical examination was performed. The blood pressure was measured after 10 min rest by ALPK 2 sphygmomanometer 300 V Japan mercury sphygmomanometer first by palpatory method then by auscultatory method. It was made sure that participant have not taken tea or smoked before taking blood pressure. Blood pressure normal taken as systolic 120 or below or diastolic 80 or below Pre hypertension labeled at systolic from 120 to 139 or diastolic from 80 to 89 mmHg. Hypertension labeled when systolic equal to 140 or more, or diastolic equal to 90 or above or the person is known hypertensive and on medications. Height was measured by measuring scale and weight by weight machine, then BMI was calculated by formula $BMI = \text{kg/m}^2$. Then data was collected on predesigned questionnaire, and then data was entered in SPSS version 20. The statistical data analysis was done through SPSS version 23 to obtain result. Independent t test was applied to get p-value which was taken significant below 0.05. This study was approved by Ethical Review Committee PUMHSW.

RESULTS: Total participants in this study were 230. Majority of participants 145 were male 63% among total and 85 female 37% in different age groups. The different age groups were 35.65% in age group 25 to 35 yrs age, 41.74% in age group 36 to 45 yrs age, 22.61% in age group 46 to 59 yrs. Most of the teachers 180 were from middle class. Moreover 70% teachers were married, 24.78% single and 5.22% had broken marriage. High school teachers were 124 in the study while 106 teachers were teaching in primary schools. (Table:1) This study showed that among 230 government school teachers of Nawabshah 73 were in hypertensive range i-e 31.7% hypertension frequency was noted, while 45 were with pre hypertension (19.6%), and 112 found having normal blood pressure

(48.7%).(Table:2) The risk factors for hypertension were noted and found that among 230 study subjects 29.56% were smokers, 61.74% with lack of exercise, 35.65% with obesity, 31.30% with positive family history of hypertension, 25.21% with high salt intake. (Table 3)

Table 1: Socio-demographic variables of study participants. (n=230)

PARAMETER	Frequency	Percentage
GENDER		Total =230
Male	145	63%
Female	85	37%
Age groups		
25 to 35 yrs	82	35.65%
36 to 45 years	96	41.74%
46 to 59 years	52	22.61%
Socio-economic Grouping		
Poor	24	10.4%
Middle	180	78.26%
Upper	26	11.30%
Marital status		
Single	57	24.78%
Married	161	70%
Widowed/divorced	12	5.22%
Job category		
High school teacher	124	53.91%
Primary school teacher	106	46.09%

Table 2: Frequency of Hypertension in school teachers (n=230)

Blood Pressure	Frequency	Percentage
Normal	112	48.7%
Pre-hypertension	45	19.6%
Hypertension	73	31.7%

Table 3: Risk factors for hypertension in school teachers (n=230).

Risk Factor	Frequency	Percentage
Smoking	68	29.56%
Lack of exercise	142	61.74%
Overweight and Obese	82	35.65%
Positive family history of hypertension	72	31.30%
High Salt intake	58	25.21%

Discussion:

The hypertension affects millions of peoples worldwide and this is a global health issue nowadays and it is an important cause of cardiovascular morbidity and mortality². In developing countries like Pakistan hypertension is very common as in a study 20.7% adult Pakistanis were found hypertensive⁶. This is an important study which identified hypertension as a significant health burden in school teachers of Nawabshah Sindh as the prevalence of hypertension was high 31.7% in school teachers. Raised blood pressure was labeled when the person has SBP \geq 140mmHg SBP and or DBP \geq 90mmHg according to JNC 7. The prevalence of hypertension and its risk factors was observed among primary school teachers of Tumkur, Karnataka by and found that (28.57%) were with hypertension⁷. In a study by Nahla K.R. et al Kingdom of Saudi Arabia the prevalence of hypertension was 25.2% among school teachers of Jeddah⁹. Similarly the prevalence of hypertension in secondary school female teachers in basrah Iraq was 21.3% in a study done by Al-Asadi

JN¹⁰. On the other hand Subash Vijaya Kumar et al in 2013 in India in Andhra Pradesh found different result of frequency of hypertension 4% among teachers¹¹. In this study the risk factors for hypertension were found smoking in 29.56% teachers, lack of exercise in 61.74% teachers, obesity in 35.65%, positive family history of hypertension in 31.30%, high salt intake in 25.21% of study population (Table 3). Similarly in a study by Singh S in India also found abdominal obesity, tobacco use, alcohol use, and physical inactivity as an important risk factors as they were significantly associated with the hypertension¹². In this study lack of exercise was present in 61.4% population which is an important risk for the development of raised blood pressure. Similarly in other study by Girish Bet all found 65% hypertensives did no exercise⁷. In other studies it was quite low, in Nahla K.R⁹. et al study among hypertensive 26.7% teachers never did any physical exercise, in the VK Agrawal¹⁴ study the frequency of lack of exercise was 18.5%⁷. NKR et al in Jeddah had seen that obesity was associated with raised blood pressure; the prevalence of HTN was 14.4% for normal weight teachers compared to 21.9% in teachers with high BMI¹³.

CONCLUSION: It is concluded that hypertension in the school teachers was 31.7% which is greater than general people. The important risk factors are lack of exercise, presence of hypertension in family, increase weight, male gender, more salt intake, and smoking among government school teachers.

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