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ORIGINAL ARTICLE PREVALENCE OF HYPERTENSION AND ASSOCIATED RISK FACTORS AMONG GOVERNMENT PRIMARY SCHOOL TEACHERS OF TALUKA SANGHAR, SINDH.

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ABSTRACT

BACKGROUND: Health issues like hypertension are getting worse in the majority of developing nations. It is also known as the "silent killer disease" as there are no specific signs or symptoms. The most important cause of Cardiovascular disease (CVD) is Hypertension. **OBJECTIVES:** To determine the frequency of hypertension and the risk factors for hypertension among primary school teachers at Taluka Sanghar, Sindh. **MATERIAL & METHODS:** This was a cross-sectional study conducted for six months at Taluka and District Sanghar, Sindh. A total of 295 primary school teachers were included in the study. The blood pressure was measured by a mercury sphygmomanometer through the auscultatory method. The SPSS version 25.0 was used to analyze the Data. A P-value of less than 0.05 was considered significant. **DURATION:** July 2022 to Dec 2022 RESULT**:** The prevalence of hypertension among primary teachers was found to be higher in the present study. Out of 295, 88 school teachers (29.8%) were found to be hypertensive and a few 207 (70.2%) were non hypertensive. The female participants were 157 (53.2%) while male were 138(46.8%) and in the age range of 35-45 years. The risk factors found to be associated with hypertension include male gender, smoking, family history of hypertension, and BMI. **CONCLUSION:** The present study concluded that hypertension is common among the teachers of primary schools in Taluka Sanghar, Sindh, Pakistan. The burden of hypertension among the school teachers can be decreased by certain changes in lifestyle like quitting smoking, doing regular exercise and physical activity.

KEYWORDS: Hypertension, Risk factors, School Teachers, Sanghar

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INTRODUCTION

Health issues like hypertension are getting worse in the majority of developing nations. It is also known as the "silent killer disease" as there are no specific signs or symptoms. The most important cause of Cardiovascular disease (CVD) is Hypertension. The sole means of reducing the frequency of hypertension is through

awareness, by giving information, and by altering attitudes and behaviors, all of which will help prevent hypertension and, thereby, cardiovascular diseases.[1] Hypertension is also called high or raised blood pressure (BP) which is one of the global public health challenges. Hypertension is persistently raised blood pressure in the arterial system. The raised blood pressure in the blood arteries results in greater work by the heart to pump blood hard against high pressure increasing the load of the human heart[2] The most effective ways to control raised blood pressure are style modifications, diet, and the awareness of hypertension. It is the world's most preventable health condition. Therefore, health promotion and disease prevention, most importantly, depend upon the population member, his community, and the organization. Lifestyle changes are very important to prevent the occurrence of hypertension and also its management.[3]Although much research work is done in this field, but there are certain gaps in the middle income countries as lack of awareness to general population and lack of access to implementable hypertension guidelines, and modifications in life style.[4]High Sodium intake is the primary cause of hypertension. Other causes may include the intake of saturated fats, physical inactivity, mental stress, obesity, and the use of tobacco. The frequency of hypertension is increasing in underdeveloped nations due to exposure to risk factors like stress and obesity and others.[5] Hypertension is best defined for operational purposes regardless of age as "the level of blood pressure at which the benefits (minus the risk and costs) of actions exceeds the risk and costs (minus the benefits) of inaction[6]

When systolic BP is equal to or greater than 140 mmHg and diastolic BP greater than or equal to 90 mmHg, it is called Hypertension and is commonly known as hypertension.[7] In a National health survey of Pakistan conducted in 1990-1994 on 9442 people from various ethnic groups in Pakistan who were 15 or older were studied, this was cross-sectional survey and it was discovered that hypertension was more common in urban (22.7%) than rural (18.1%) Pakistan.[8] An investigation was carried out in the Karnataka state of India on hypertension and the important factors related to it among elementary school teachers in Tumkur, which found that the prevalence of the condition was 28.57%.[9] In Pakistan in a study on lecturers at the University of Peshawar in which both Men and women with sedentary lifestyles were selected found the prevalence of hypertension as 25.6%.[10] The frequency of different medical problems that are critical, like chronic renal failure, cerebrovascular illness, and cardiovascular disease, are significantly increased with hypertension.[11] Worldwide, 9.4 million people die due to hypertension-related problems, which include 45% mortality due to coronary artery disease and 51% due to stroke-related related.[12] In light of the above studies, this study was carried out in remote rural areas of Sindh among school teachers to document the incidence of hypertension among them. This study may play a role in checking the frequency and risk factors of hypertension among the teachers community who teach in government primary schools of Taluka Sanghar, of Sindh. This study will give awareness of different risk factors of hypertension in primary school teachers and will help them to prevent hypertension by avoiding these risk factors.

MATERIAL & METHODS

Study Setting: The study was conducted in Tehsil and Sanghar District of Sindh province. Study duration: 6 months from July 2022 to December 2022. This was a Cross-Sectional type of study. Male and Female primary school teachers of government schools. The sampling was done by the probability convenience type sampling technique. Primary school teachers of 35 to 60 years of age of both

genders were selected. The unwilling participants and those with other chronic diseases like rheumatoid arthritis, Cushing's syndrome, and renal failure were excluded on history. The primary school teachers were approached after approval from the ethical review committee of PUMHS for Women Shaheed Benazirabad. The data from each study subject was collected by the researcher himself through a pre-designed structured questionnaire. Informed verbal consent was taken from each participant. The data was analyzed using SPSS version 25.0 for statistical analysis. The qualitative variables were assessed for frequency and percentage, while continuous variables were assessed for Means with Standard Deviation. Different statistical tests, like the Chi-square test, were applied for analysis. To check and identify certain risk factors of hypertension, the regression analysis was done. A P-value below 0.05 was taken as significant.

RESULTS

The different basic characteristics of study subjects are shown in **Table .1** Shows. the frequency of male teachers was 138 (46.8%) while female participants were 157 (53.2%) among a total 295. The participants' BMIs reveal that the majority of them were overweight 140, 47.5%), while 82 (27.8%) were obese. Only 67 school teachers (22.7%) were doing exercise daily. In 93 (31.5%) participants, hypertension ran in the family. 179 (60.7%) of the participants did not smoke, and 195 (66.1%) of the study participants consumed typical amounts of salt. figure 01. frequency of hypertension among primary school teachers The frequency of hypertension among the study participants is shown in Fig:01. In total study subjects, 88 (29.8%) of the study participants had hypertension, compared to 207 (70.2%) who had normal blood pressure. The relationship between hypertension and demographic factors such age, gender, BMI, daily activity, family history of hypertension, and monthly income is shown in Table .02. With a male predominance, it was discovered that gender was substantially connected with hypertension ($p<0.001$). Additionally, significantly related with hypertension was a family history of the condition ($p<0.001$). The majority of obese patients had hypertension, and BMI was found to be highly correlated with it as the P-value was observed to be less than 0.001. According to Table. 03, there is a substantial ($p<0.01$) link between smoking and hypertension. Since the majority of the subjects consumed appropriate amounts of salt, there was no significant correlation between salt intake and hypertension.

TABLE 1. BASIC SOCIO-DEMOGRAPHIC PROFILE OF STUDY SUBJECTS.

Variables	**Frequency (%)**
Gender	
Female	157 (53.2)
Male	138 (46.8)
Different Age groups	
35-45	111 (37.6)
46-55	108 (36.6)
56-65	76 (25.8)
Daily Exercise	
Yes	67 (22.7)
No	228 (77.3)
Hypertension in Family	
Yes	93 (31.5)
No	202 (68.5)
Monthly Income (Rs)	
<30000	59 (20.0)
30000-100000	170 (57.6)
>100000	66 (22.4)
Smoking	
Yes	116 (39.3)
No	179 (60.7)
Salt Intake	
Normal	195 (66.1)
Restricted	70 (23.7)
More than normal	30 (10.2)
Body Mass Index	
Normal weight	73 (24.7)
Overweight	140 (47.5)
Obese	82 (27.8)

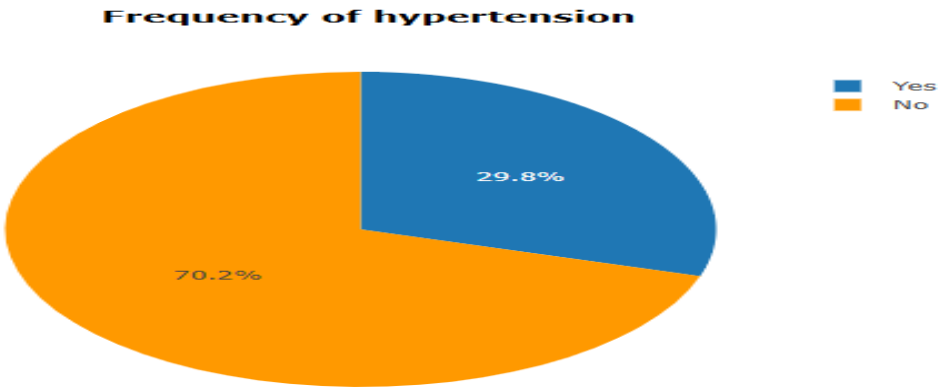

FIGURE 01. PIE CHART SHOWING FREQUENCY OF HYPERTENSION AMONG PRIMARY SCHOOL TEA CHERS.

TABLE. 2: CORRELATION OF HYPERTENSION WITH SOCIO-DEMOGRAPHIC CHARACTERISTICS

Variables	**Hypertension**		**p-value**
	Yes (%)	**No (%)**	
Gender			
Male	68 (49.3)	70 (50.7)	<0.001
Female	20 (12.7)	137(87.3)	
Age			
35-45	33 (29.7)	78 (70.3)	0.374
46-55	28 (25.9)	80 (74.1)	
56-65	27 (35.5)	49 (64.5)	
Daily Exercise			
Yes	20 (29.9)	47 (70.1)	0.997
No	68 (29.8)	160 (70.2)	
BMI			
Normal weight (18.5 -24.9)	13(17.8)	60(82.2)	<0.001
Overweight (25-29.5)	26 (18.6)	114 (81.4)	
Obese (30 and above)	49 (59.8)	33(40.2)	
Hypertension in Family			
Yes	74(79.6)	19(20.4)	<0.001
No	14 (6.9)	118(93.1)	
Monthly Income			
<30000	30(50.48)	29 (49.12)	0.848
30000-100000	80 (47.05)	90 (52.95)	
>100000	18 (27.3)	48 (72.7)	

TABLE 3: ASSOCIATION OF HYPERTENSION WITH SALT INTAKE AND SMOKING.

Variables	Hypertension		P-value
	Yes (%)	No (%)	
Smoking			
Yes	66 (56.9)	50(43.1)	<0.001
No	22 (12.3)	157(87.7)	
Salt Intake			
Restricted	18(25.7)	52(74.3)	
Normal	61(31.3)	134(68.7)	0.683
More	9(30.0)	21(70.0)	

DISCUSSION

The current study gives information about the frequency of hypertension among primary school teachers working in government schools of Taluka and District Sanghar of Sindh Province. In the study population, hypertension was frequently seen as 29.8% (n=88) had hypertension while the remaining 70.2% (n=207) had normal blood pressure. The prevalence of hypertension in Pakistan was reported by two large epidemiological studies: one study based on the National Health Survey reported a rate of 19.1%, and the other based on the northern rural areas (2001) reported a rate of 14%.[13] These outcomes are comparable to those from earlier research. On previously published study found that 28.57% of school instructors had hypertension.[14] According to another study conducted among primary school teachers of Tumkur, Karnataka, India, 25% of school instructors had hypertension.[15]

On the other hand, Contrary to our findings, a recent study in the Sadama zone of the African region revealed a comparatively low prevalence of hypertension.[16] Certain factors like BMI, male gender, family history of hypertension, and smoking had a strong correlation with hypertension among the research population's risk variables. In the current study, it was discovered that gender differences have a substantial effect on hypertension, with men being more affected than women (p 0.001). This discovery was made earlier by Badego et al. (2020) in a different investigation. The incidence of hypertension was shown to be substantially correlated with male gender.[17] Participants who have a strong history of hypertension in their families are more likely to develop hypertension. These results were in association with previous studies that showed a high correlation between the frequency of hypertension and a family history of the condition.[18] Another risk that the current investigation discovered to be significantly linked to hypertension is smoking. According to this research, the majority of the people who smoked also had increased blood pressure. This demonstrates a robust correlation between smoking and hypertension pathophysiology. These results are similar and in line with those made earlier by Sikandar et al. (2015) and Ishtiaq et al. in previous studies(2017).[19] In earlier investigations, it was discovered that obesity and hypertension were related. These investigations found a strong correlation between hypertension and greater BMI, which accounts for obesity[20]. A substantial relationship between BMI and hypertension was discovered in the current investigation, and the findings indicate that obese and overweight individuals had more chance of developing hypertension.

CONCLUSION

It is concluded from the current study, that primary school teachers in Taluka Sanghar

of Sindh province frequently had hypertension as it was seen in 29.8% of study participants. The important risk variables for hypertension identified were gender, smoking, high BMI, and family history of hypertension.

LIMITATIONS: It is important to gather information from individuals with diverse occupations and from other province-wide locations in order to further validate the study's findings. This could be useful for comparing statistics between the teaching profession and other occupations that need physical effort.

RECOMMENDATIONS: These different awareness campaigns may be conducted among primary school teachers to inform them about Hypertension, their hazards, and the lifestyle changes that may aid in lowering blood pressure.

ETHICS APPROVAL: The ERC gave ethical review approval.

CONSENT TO PARTICIPATE: written and verbal consent was taken from subjects and next of kin.

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CONFLICT OF INTEREST: No competing interest declared

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