

Original Article

PREVALENCE OF HYPERTENSION IN ADULT POPULATION IN RELATION TO PROFESSION IN THE UNIVERSITY OF PESHAWAR

Jehan Hussan¹, Hayat Muhammad Khan¹, Waqar Mehmood², Samra Rahim², Muhammad Sannan², Nabeel Ahmad², Faryal Nosheen²

ABSTRACT

Background: Hypertension is one of the most common chronic diseases in the current era. Though many factors favor hypertension, many causes are not known yet. Hypertension in the adult population is on the rise and various factors need to be assessed about the profession. This research article has assessed the prevalence of Hypertension with relevance to the profession.

Material and Methods: It was a cross-sectional analytical study conducted on workers in different departments of University of Peshawar. A total of 260 participants were selected through non-probability convenience sampling. Data was collected using a questionnaire, which was then analyzed on SPSS version 22. Chi-square was used for observing any relationship between hypertension with different professions. P value less than 0.05 was taken as significant.

Results: The mean age of the participants was 42 years with S.D of 8.76 years. Out of these 86.5% were males and 13.3 % were females. Prevalence of Hypertension among the overall participants was 23.8% (62), for males was 24.88% and for females it was 17.14%. The highest prevalence among our subjects was in bankers (42.8%) and lowest among laborers (20%). 79% mentioned that they developed Hypertension while working in their respective professions. Hypertension was not significantly associated with any profession with a chi square value of 4.3 and p value of 0.633.

Conclusion: The prevalence of Hypertension among the participants was 23.8% . The findings proved that a relationship exists between hypertension and jobs strain. However, no statistical difference was seen between hypertension and occupation.

Key Words: Hypertension, Professional stress, Population

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¹Assistant Professor Community Medicine Department, Khyber Medical College Peshawar

²Students 4th year Khyber Medical College Peshawar.

Corresponding Author

Hayat Muhammad Khan

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INTRODUCTION

Hypertension is the commonest cardiovascular disorder and is becoming a global pandemic. About 1 billion people are suffering from Hypertension globally.¹ Internationally, an estimated 32 percent of the world's population suffers from Hypertension.² Only 32.3% of the total hypertensive patients have controlled their Blood pressure with medication.³ Hypertension is a condition characterized by abnormally elevated blood pressure. Uncontrolled high blood pressure for a long

time results in complications. It can lead to stroke and myocardial infarction. Deaths resulting from stroke and myocardial infarction account for 51% and 45%, respectively.⁴ Raised blood pressure also adversely affects the kidneys and retina, leading to renal failure and blindness. The majority of the total stroke cases are a consequence of untreated Hypertension.⁵

About 62.3 percent increase in deaths caused by Hypertension has been reported from 1990 to 2013.⁶ World Health Organization predicts around 1.28 billion adults are found hypertensive by and mostly in middle and lower-income countries.⁷ Complications of Hypertension continue to cause significant morbidity and mortality worldwide, largely due to inadequate strategies for the prevention, diagnosis and control of Hypertension in an ageing worldwide population.⁸ All countries and regions in Asia face the growing problem of non-communicable diseases (NCDs), of which Hypertension and CVD are a significant part.⁹ In Pakistan, a survey showed 46.2%, the prevalence of Hypertension of which 24.9% had self-reported Hypertension and 21.3% were newly diagnosed hypertensive. The prevalence of Hypertension in urban and rural areas was 44.3% and 46.8%, respectively.¹⁰ Both Modifiable and non-modifiable risk factors are responsible for high blood pressure in Pakistan.¹¹ Hypertension is reported as the most frequent cardiovascular condition in the hospital population of Peshawar.¹²

The environment has a significant association with Hypertension, as proposed by different researchers.¹³ Meanwhile occupational stress and psychological health was proven to influence hypertension.¹⁴

The main aim of this study was to determine the prevalence and relationship of Hypertension in different occupations in the University of Peshawar. Knowledge generated will give insight about determinants of hypertension related with occupation.

MATERIAL AND METHODS

A cross-sectional analytical study was conducted on teachers, policemen, shopkeepers, laborers, barbers and bankers working in different occupational Settings at the University of Peshawar from April 2021 to September 2021. A sample size of 260 was calculated according to the WHO formula $n = Z^2 PQ/d^2$ with a previous prevalence of 21%¹⁰, Margin of error was 5% with a 95% Confidence level. The sampling technique used was a non-probability convenience sampling technique. After institutional review board approval and informed consent data was collected by using a semi-structured questionnaire developed through literature search. People working in the professions mentioned above above 30 years of age and willing to participate were included. People with other diseases that might cause their Hypertension were excluded from the study. Data was analyzed through Statistical Package for Social Science (SPSS) version 22. Chi-square was used for finding an association of Hypertension with different professions, and p value less than 0.05 was taken as significant.

RESULTS

260 study subjects above 30 years (with a mean age 42 S.D 8.765) from multiple professions inside the University of Peshawar were interviewed for the research. Out of these, 86.5% were male and 13.3 % were female. Most participants (82.7%) were married and 17.3% were unmarried. The statistical analysis of our results showed that the prevalence of Hypertension among the subjects was 23.8% (62) on the whole, with 24.88% prevalence among male subjects and 17.14% among female subjects. The highest prevalence among our subjects was in bankers (42.8%) and the lowest among labors (20%). When asked, 53.22% of the participants agreed to their profession was the cause of their high blood pressure. There was no association of any

profession with Hypertension and the P value was insignificant ie. 0.633 (Table 3).

Table-1: Participation suffering from Hypertension

Hypertension status	Frequency	Percent
Yes	62	23.8
No	198	76.2
Total	260	100.0

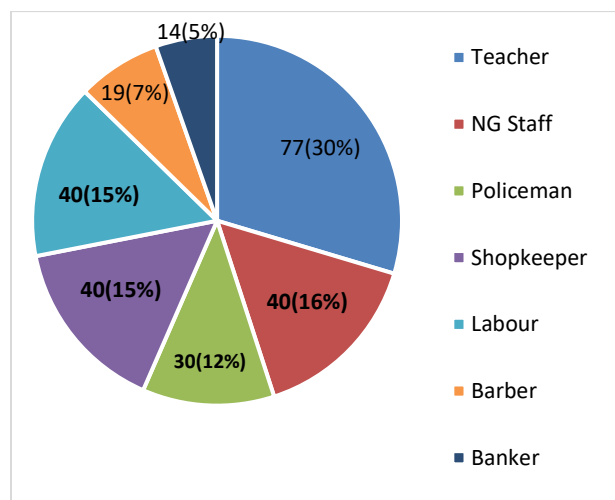


Figure 1: Profession of Participants

Table-3: Bivariate analysis between participant suffering from hypertension & profession of participants

Participant suffering from Hypertension	Profession of participants							Total	Chi Square P-Value
	Teacher	Non govt. Staff	Policeman	Shopkeeper	Labour	Barber	Banker		
Yes	16	11	8	8	8	5	6	62	0.633
No	61	29	22	32	32	14	8	198	
Total	77	40	30	40	40	19	14	260	

DISCUSSION

This study showed the prevalence of Hypertension to be 23.8% on the whole while the global prevalence is considered 31%,⁷ a bit higher than our findings. Hypertension is a

Table-2: Opinion of participants on whether their profession was a cause of Hypertension

Participants suffering from Hypertension		Is profession a cause of Hypertension?		Total
		Yes	No	
Profession	Teacher	6 (37.5%)	10 (62.5%)	16
	Non governmental staff	5 (45.4%)	6 (54.54%)	11
	Policeman	6 (75%)	2 (25%)	8
	Shopkeeper	4 (50%)	4 (50%)	8
	Labour	4 (50%)	4 (50%)	8
	Barber	2 (30%)	3 (60%)	5
	Banker	6 (100%)	0 (0%)	6
		33 (53.2%)	29 (46.77%)	62

highly prevalent disease in Pakistan, with a prevalence of 46.2% in adults above 45 years of age,¹⁰ almost 22% more than our prevalence (23.8%). In our study, hypertension prevalence was slightly different for males and females. Of

the 225 males, 24.88 % were hypertensives, while out of the total 35 females, 17.4% were hypertensive. Lower prevalence in women might be because all women in our study were teachers and were more aware of the disease and its risk factors. And these factors could have helped them in adopting healthy lifestyles. An international study also showed women were far less likely to be hypertensive than men (12% vs. 27%).¹⁵ Prevalence of Hypertension is highest among bankers and least in laborers related to high-stress levels and low physical exertion among the bankers. Also, most of the time is spent sitting with less exertion. At the same time, laborers have physical exertion and exercise on a daily basis. It is compatible with another study done in Bangladesh showing that fourth of the bankers were having hypertension.¹⁶ Stressful jobs are associated with Hypertension as in another study at US, a community-based cohort of blacks, higher perceived stress over time was associated with an increased risk of developing Hypertension.¹⁷ High stress always leads to different diseases in the long run including Hypertension. Another study at Indonesia stated that Age, salt consumption, and stress were the risk factors for Hypertension. The most dominant factor affecting the incidence of Hypertension was stress. Therefore, stress managements are required to reduce stress experienced by people apart from consuming low-sodium food.¹⁸ Some of the limitations were that the university had a lot of departments and a lot different professions. Still, we couldn't cover all of them because of our small sample size and the interventions of the Covid-19 pandemic. Also, we couldn't find equal number of participants for all professions and same percentage of both genders in each profession to make our results a true representation of the actual problem of Hypertension.

CONCLUSION

A high percentage of people working in

various professions suffer from Hypertension. According to the participants ' opinion, the main factor causing Hypertension is job strain. There was no association between Hypertension and different professions.

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Conflict of interest: None

AUTHOR'S CONTRIBUTION

JH: Proposal development and drafting

HMK: Data analysis

WM: Data collection and analysis

SR: Data entry and analysis

MS: Manuscript writing

NA: Manuscript writing

FN: Literature review and conception of idea

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