

Prevalence of Hypertension in Medical Professionals of Tertiary Care Centre and Assessing their Awareness about Hypertension and Lifestyle Measures to Curb It

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Abstract:

Introduction: Hypertension, or raised blood pressure, is a major public health problem in India. Medical professionals are highly susceptible to hypertension. We studied to estimate the prevalence of hypertension among medical professionals, to assess their knowledge about hypertension and to assess awareness about lifestyle measures.

Materials and Methods: It was a cross-sectional study done among medical professionals at American international institute of medical sciences, Udaipur. A total of 220 subjects, aged 23 to 60 years, 145 males and 75 females, were included.

Results: 93.3% consider their blood pressure to be controlled. 45.4% (100/220) of professionals were normotensive, 43.2% (95/220) had stage 1 hypertension, and 11.3% (25/220) had stage 2 hypertension. 70% (55/78) in the obese category, 56% (29/52) in the overweight category, and 41.8% (38/90) in the normal BMI group were hypertensive. Most people are aware of hypertension and the lifestyle measures that affect blood pressure.

Conclusions: A high prevalence of hypertension was found among medical professionals. BMI, a modifiable risk factor, can be addressed to reduce the magnitude of hypertension in this study group.

Keywords: Hypertension Prevalence, Medical Professionals, Awareness, Lifestyle Measures, BMI and Hypertension.

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Introduction

In 2008, the global prevalence of hypertension in persons over 25 was estimated to be over 40%. Between 1980 and 2008, the number of people with uncontrolled blood pressure rose from 600 million to about 1 billion. [1] It has been established that 7.5 million deaths worldwide, or 12.8% of all deaths, and 57 million disability-adjusted life years (DALYS), or 3.7% of all DALYS, are attributable to hypertension. An important risk factor for ischemic, haemorrhagic, and coronary heart disease is elevated blood pressure. [2] The risk of cardiovascular disease doubles with every 20/10 mmHg increase in blood pressure. Other effects of hypertension include heart failure, peripheral vascular disease, renal morbidity, retinal haemorrhage, and ophthalmic morbidity. All of these problems have been shown to decrease when hypertension is properly treated. [3] The World Health Organization reported that 32.5% of Indians (33.2% of men and 31.7% of women) had

hypertension in 2008.2. About 25.6% of individuals who received treatment had their blood pressure under control. A meta-analysis carried out in 2014 revealed that around 25% of Indians living in rural areas and 33% of those living in cities have hypertension.[4] Of these, around 25% of people living in rural areas and 42% of people living in urban areas were aware that their blood pressure was elevated. Roughly 25% of people living in rural areas and 38% of people living in urban areas were receiving therapy for high blood pressure.[5] Approximately 1/10th of people with hypertension in rural areas and 1/5th in urban areas got their blood pressure under control. There is very little information available from India about high blood pressure and the variables that contribute to it. [6] Medical students are vulnerable to hypertension because they have unhealthy lives and are prone to stress. This study aims to determine the incidence and causes of hypertension among medical

students, a vulnerable population given that hypertension is a major health concern in India.

Materials and Methods

Study Type: This study was designed as a cross-sectional observational study conducted at American international institute of medical sciences, Udaipur.

Selection Criteria of the Patients: Patients included in the study were required to meet specific inclusion criteria, which consisted of individuals aged 18 years and older, those who provided informed consent to participate, and individuals with documented blood pressure measurements. Exclusion criteria encompassed patients below the age of 18, those who did not provide informed consent, and individuals with incomplete or unavailable blood pressure data.

Procedure: Data collection involved the review of medical records for eligible patients to extract blood pressure measurements. These measurements

served to categorize patients into distinct blood pressure groups, namely, normotensive, Stage I hypertension, and Stage II hypertension. For the collection of biosocial correlates, a structured questionnaire was administered to each participant. This questionnaire gathered information regarding the type of family structure, gender, family history of hypertension, and dietary habits. The type of family was categorized as nuclear or joint, while gender was classified as male or female. Family history of hypertension was noted as present or absent, and dietary habits were distinguished as either vegetarian or mixed.

Statistical Analysis: Statistical analysis was performed using the chi-square test to identify associations between the variables and hypertension. The Chi Square statistic and corresponding p-values were calculated, with statistical significance defined as $p < 0.05$. Data analysis was conducted using SPSS, MS Excel.

Results

Table 1: Classification of blood pressure among study subjects

	Number of Cases	Percentage
Normotensive	100	45.45
Stage I	95	43.18
Stage II	25	11.36
Total	220	100.00

Table 2: Biosocial correlates of hypertension

	Hypertensive (n=120)		Non-hypertension (n=100)		Chi Square	P value
Type of Family						
Nuclear	55	45.83	35	35.00	2.219	0.136
Joint	65	54.17	65	65.00		
Gender						
Male	79	65.83	45	45.00	8.797	0.003
Female	41	34.17	55	55.00		
Family History of hypertension						
Present	93	77.50	32	32.00	44.189	p<0.001
Absent	27	22.50	68	68.00		
Diet						
Vegetarian	51	42.50	58	58.00	4.641	0.031
Mixed	69	57.50	42	42.00		

Results: The results of this study suggest that gender, family history of hypertension, and dietary habits are significantly associated with hypertension, while the type of family structure did

not show a significant association. These findings highlight the importance of considering these biosocial factors when assessing the risk and prevalence of hypertension within a population.

Table 3: Determinants of hypertension

	Hypertensive (n=120)		Non-hypertension (n=100)		Chi Square	P value
Physical Activity						
Sedentary	103	85.83	65	65.00	13.220	0.001
Moderate	16	13.33	32	32.00		
Heavy	1	0.83	3	3.00		
BMI						
>25	39	32.50	13	13.00	10.436	0.001
<25	81	67.50	87	87.00		

Duration of sleep						
>8 hours	57	47.50	44	44.00	0.147	0.702
<8 hours	63	52.50	56	56.00		
Academic Performance						
Good	66	55.00	23	23.00	21.878	p<0.001
Average	54	45.00	77	77.00		

Table 2 provides valuable insights into the determinants of hypertension among the study participants, consisting of 120 individuals with hypertension and 100 individuals without hypertension. First, physical activity levels were analyzed in relation to hypertension. A significant association was observed between sedentary behavior and hypertension. Next, body mass index (BMI) was investigated as a determinant of hypertension. The chi-square test revealed a statistically significant association between higher BMI and hypertension, suggesting that overweight or obesity is a substantial risk factor for hypertension.

The duration of sleep was also examined as a potential determinant. The results indicated that there was no significant difference in the prevalence of hypertension between those who slept more than 8 hours and those who slept less. The chi-square test showed no significant association between sleep duration and hypertension. Finally, academic performance was analyzed as a determinant of hypertension. The chi-square test demonstrated a highly significant association between good academic performance and hypertension.

Discussion

Hypertension, a global public health concern, is associated with significant morbidity and mortality. This study aimed to estimate the prevalence of hypertension among medical professionals, assess their knowledge about hypertension, and evaluate their awareness of lifestyle measures for hypertension management.[7] The study found a high prevalence of hypertension among medical professionals, with 45.4% classified as having normal blood pressure, 43.2% with stage 1 hypertension, and 11.3% with stage 2 hypertension. This high prevalence aligns with the global trend, where hypertension is a widespread issue.[8] A notable finding is that despite their medical background, a significant proportion of medical professionals were hypertensive, emphasizing the need for focused interventions within this group. The prevalence of hypertension in this study is consistent with existing data, indicating that medical professionals are not immune to this health issue.[9] The study identified several factors associated with hypertension among medical professionals. Gender was found to be significantly associated with hypertension, with a higher

prevalence among males. This observation is in line with broader trends in hypertension prevalence, where males often have higher rates of hypertension compared to females.[10] Family history of hypertension was another significant contributor, with individuals having a family history of hypertension more likely to be hypertensive. This finding underscores the genetic component of hypertension and the importance of early screening for individuals with a family history. Dietary habits were also shown to influence hypertension.[11] A significant association was found between being a vegetarian and a lower risk of hypertension. This association may be attributed to the typically lower consumption of saturated fats and higher intake of fruits and vegetables among vegetarians.

Physical activity level was strongly linked to hypertension, with sedentary individuals having a higher risk of hypertension. This finding highlights the importance of regular physical activity in preventing and managing hypertension. BMI emerged as a crucial determinant of hypertension, with higher BMI significantly increasing the risk. Overweight and obesity are known risk factors for hypertension, and this study reaffirms the importance of maintaining a healthy weight to reduce hypertension risk.[12] A particularly interesting finding in this study was the association between good academic performance and hypertension. While the causality of this relationship is not clear from this study, it suggests a potential link between stress associated with academic excellence and hypertension. More research is needed to explore the mechanisms underlying this association.[13] The prevalence of hypertension observed in this study aligns with national and global estimates. The prevalence of hypertension in the Indian population has been reported to be around 32.5%, consistent with the findings of this study. However, this study's emphasis on medical professionals adds a unique perspective, suggesting that even those with medical knowledge are not necessarily immune to hypertension. Further research may provide insights into the specific stressors and lifestyle factors affecting this population.

Conclusion

In conclusion, this study underscores the high prevalence of hypertension among medical professionals, emphasizing the importance of

addressing modifiable risk factors, particularly BMI, to reduce the burden of hypertension in this specific group. The study's findings align with broader trends in hypertension prevalence, and the association between good academic performance and hypertension warrants further investigation. Addressing hypertension in the medical community is crucial not only for individual well-being but also for setting an example for patients and the broader community in adopting healthier lifestyles.

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