

HYPERTENSION: PREVALENCE AND PREVENTIVE KNOWLEDGE

Abid Ghafoor Chaudhry*

Chairman/Associate Professor

Department of Anthropology, PMAS-Arid Agriculture University, Rawalpindi
abidgc@uaar.edu.pk

ABSTRACT

Hypertension, commonly known as high blood pressure, is often referred to as a silent killer due to its typically asymptomatic nature. It is a prevalent health issue in Pakistan. The high incidence of hypertension underscores the importance of spreading knowledge about its causes, symptoms, and available treatment options, especially among individuals pursuing higher education. The demands and stress associated with higher education can increase the susceptibility of students to hypertension. In this context, the present study aims to investigate two key aspects related to hypertension among students at Arid Agricultural University, Rawalpindi: 1) its prevalence and 2) the awareness of preventive measures. A sample of 100 students currently diagnosed with hypertension was selected following initial screening. Data was collected through structured interviews and subsequently analyzed using SPSS. Among the students interviewed, 51% fell within the age group of 24 to 27, while the remaining students were aged above 27. The study revealed that out of all respondents diagnosed with hypertension, 82 students were familiar with the disease and its health implications. Out of these 82, 65 students were actively receiving treatment. Notably, 75% (N=16) of the students were aware of the available treatments, and 56.25% (N=16) were currently undergoing treatment. In terms of educational attainment, MPhil and PhD students exhibited higher levels of awareness and engagement with hypertension, with sensitization and treatment rates of 93.33% for MPhil and 100.00% for PhD students, as opposed to 73.33% for MPhil and 75.00% for PhD students who had sought treatment. The study's findings also point to the need to explore the root causes of hypertension and its potential impact on students' academic performance, particularly in terms of their academic results. Additionally, the study suggests investigating the approaches students commonly employ to manage high blood pressure. Notably, students pursuing Master's and Doctoral degrees tend to have a better understanding of hypertension and are more likely to receive regular treatment for the condition.

Keywords: Hypertension, High Blood Pressure, Hypertension and students, Disability and Hypertension

INTRODUCTION

One of the leading causes of death worldwide is hypertension, which claims the lives of almost 7.1 million people annually. To understand the prevalence of hypertension and the risk factors that contribute to it, numerous studies have been done. It is a significant health barrier in developing nations (WHO, 2002).

A major public health issue, hypertension has a prevalence of 40.8% worldwide and a managed rate of 32.3%. (Chow et al., 2013). A number of significant disorders, including cardiovascular disease (Wilson, 1994), cerebrovascular disease (Staessen et al., 1997), and chronic renal disease, are at increased risk due to hypertension (Coresh et al., 2001). Complications of hypertension are responsible for 9.4 million fatalities worldwide, including 51% of all stroke deaths and 45% of all deaths from coronary heart disease (Lim et al., 2012).

Thirty percent of people around the world have hypertension, which is regarded as a serious issue (Haralambos, 2009). According to Joseph et al. (2009), hypertension is strongly linked to a number of disorders and can impair the heart, kidneys, brain, lungs, and end organs (Alain et al., 2011). Numerous epidemiological readings have been conducted all around the world to predict the probable risk that the population may soon face. RB According to Singh et al. (2000), hypertension

* Corresponding Author

affects 15–35% of urban adults in Asia, whereas it affects rural people at a rate that is 2-3 times lower than that of urban dwellers. The prevalence of hypertension varies globally. The lowest rates of hypertension are found in rural India, where they range from 3.4% in men to 6.8% in women, to 68.9% in males and 72.5% in women, and the highest rates are found in Poland (Patricia et al., 2005).

Additionally, hypertension is a substantial contributor to morbidity and disability, and its incidence is rising quickly in emerging nations. In affluent countries, hypertension is the fourth largest cause of early death, and it is the seventh in poor countries (Reddy, 1996). According to recent studies, there are currently 1.56 billion individuals worldwide who suffer with hypertension, or around one-billion adults, or roughly one-fourth of the world's population.

Psychosocial issues can also affect how people's health develops. Compared to many objective health measurements, self-assessed health status is a more accurate predictor of death and morbidity (Joshua et al., 2002). Compared to healthy people, hypertension sufferers' HRQL is significantly worse (Liu et al., 2005; Bardage & Isacson, 2011; Banegas et al., 2011, Wang et al., 2009). The medication, organic lesions, comorbidities, and blood pressure of hypertension patients all affect their quality of life (Kawecka, et al., 2006). The majority of studies have demonstrated that high blood pressure impairs energy, social interaction, mood, psychological function and mental health (Bardage & Isacson, 2011).

Pakistan; is facing an increased ratio of cardiovascular abnormalities with a total population of 191.7 million. Hypertension is a highly dominant disease in Pakistan and is growing day by day. Data on hypertension in Pakistan is not as accumulative as required; therefore, information acquired on the manifestation of hypertension in the common population of Rawalpindi-Islamabad is looked-for (Jafar et al., 2003).

Hypertension pressure is a main obstacle not only in Pakistan but in many developing countries and underdeveloped. Although many studies have been done on hypertension medications, and their risk factors causes the incidence will raise steadily. The present study focuses on the prevalence of hypertension pressure and preventive knowledge among students in the Arid University of Agriculture, Rawalpindi.

MATERIAL AND METHODS

The present study was designed to explore the prevalence of hypertension among university students and preventive knowledge among them. A sample of 100 students was selected from the OPD visitor of university medical center for this purpose. Selected respondents belong to different faculties and different age and gender groups. Their visit and treatment record were updated for case management. For data collection an interview schedule was developed and improved after pre-test. After data collection, data editing and entry was done. for analysis SPSS used for descriptive analysis.

RESULTS AND DISCUSSION

Table No. 1 Age Group and Preventive Knowledge

Age Groups	Frequency	Percentage
18-20	15	15
21-23	29	29
24-27	51	51
28 and above	5	5
High BP is Preventable		
Yes	89	89
No	0	0
I don't know	11	11

Table 1 explains the distribution of respondents by age group and knowledge about prevention. The age categories were divided into four different intervals of 18 to 27 years and older. We interviewed 15 respondents under 18 to 20 years, 29 respondents in the age group of 21 to 23 years, most of the sample belonged to the age group of 24 to 27 years and 5 students over 28 years and older. Respondents were of the view after questioning that “high blood pressure can be preventable or not”, 89 % of the respondents believed high blood pressure is preventable while no particular response was logged in category of “No”. Rest 11% was unsure about the response.

Table No. 2: Age, Knowledge, and Treatment of Hypertension

Age Group	Hypertension aware (YES)	Treatment Aware (YES)	Getting Treatment (YES)
18-20	15	12	8
21-23	29	23	19
24-27	51	42	34
27 and above	5	5	4

Table 2 presents responses of three different questions with an age breakup of respondents. The table presents the responses of only those students who have been identified with hypertension. The second question was about the awareness of hypertension among the selected students. Of the 15 hypertensive students in the age group of 18 to 20 years, 12 had adequate information on hypertension, while in the age group of 21 to 23 years, 23 were aware of hypertension and 42 of hypertension. The third question was asked by respondents about the treatment. In 8 cases between the ages of 18 and 20, the treatment was provided by a professional, 19 students from 21 to 23 years were receiving treatment and in the age group of 24 to 27 years, 34 students were receiving medical treatment. Those who did not receive treatment felt that they practiced self-medication.

Table No. 3 Qualification, Knowledge, and Treatment of Hypertension

Qualification	Hypertension Awareness (YES)	Treatment Awareness (YES)	Getting Treatment (YES)
Graduation	16	75% [N=16]	56.25% [N=16]
Masters	65	86.15% [N=65]	66.15% [N=65]
MPhil	15	93.33% [N=15]	73.33% [N=15]
PhD	4	100.00% [N=4]	75.00% [N=4]

Table 3; the data were then analyzed based on the respondent's qualifications against three questions, as discussed earlier in the discussion of the previous results. Of the students who graduated, 16 were hypertensive, 75% knew the treatment and 56.25% received treatment. In the case of master's students, 65 respondents with hypertension, 86.15% had information about the treatment and 66.15% were in the treatment process. 15 MPhil students with hypertension were interviewed, 93.33% knew the treatment and of these 93.33%, 73.33% consulted a health professional for treatment. The percentiles of the results of doctoral students are higher than those of other students.

Table No. 4 Knowledge of High Blood Pressure (HBP)

Questions	Options	Percent (%)
What causes HBP?	High level of stress	79
What are the main symptoms?	Fast pulsing seems to be symptom.	11
	Force of blood pressing alongside blood vessel fences.	5
	I don't know	4
	≤ 120/80	29
What is normal range of BP or HBP?	> 120/80 but ≤ 139/89	51
	> 139/89 but ≤ 160/100	15
	I don't know	5
	dizziness, Headache, general tiredness	76
What are the symptoms of HBP?	Tense sensation in the chest	18
	No symptoms	0
	don't know	6

Table 4 portrays the level of consciousness about high blood pressure among learners. In 79 % cases students recognize that high blood pressure is like extraordinary level of stress, over thinking or strain while 11 % were of the view that fast pulsing is symbol of HBP. When they were inquired about varieties (ranges) of HBP, 29 % said that it is less than or equal to 120/80, 51 % argued that it is greater than 120/80 but less than or equal to 139/89 and in 15 % cases conveyed ranges are greater than 139/89 but less than or identical to 160/100. The third question of this table shows the information about HBP symptoms among university learners. Headache, dizziness, and general

tiredness were documented in 79 % responses, while 18 thought tense feeling in the chest is main symptom of HBP. About 6 % cases students had no idea about HBP symptoms to talk in general.

Table No. 5 Preventive Attitude

Questions	Response Categories	Percent
Do you think healthy lifestyle can help in prevention of HBP?	Yes	99
	No	1
Is Hypertension a preventable?	Yes	87
	No	13
Can Hypertension be avoided through change in lifestyle?	Yes	97
	No	3

Table 5 comprised of three different questions/response classifications and percentages. Responses recorded under first question “Do you think to avoid illness healthy lifestyle is important, 99 percent scholars said “Yes” it is and one case is against the others. Hypertension is preventable rendering to 87 percent of the students while 13 said it is not preventable. Lifestyle is an important pointer to stay healthy or vis-à-vis. In 97 percent of cases defendants reported that healthy variation in lifestyle can help to preclude hypertension and only 3 students were not settling with the question to talk about.

Prior to that, and most significantly for this study, is the fact that hypertension has recently demonstrated a rising trend among college students. The prevalence of hypertension and prehypertension was 5.7% and 47.4%, respectively, among the 954 university students at Fayoum University (Egypt), according to Soliman et al. (2014). 200 research participants in a recent study of undergraduate medical students in Odisha, India, revealed that 67% of them had prehypertension and hypertension (Patnaik and Choudhury, 2015).

Previous research has demonstrated that proactive approaches offer upbeat activities that support stopping high blood pressure-causing behavior. It is a cheap and highly effective approach to maintain the proper range of blood pressure. The most successful strategy for combating the developing epidemic is expected to be primary prevention (Maher et al., 2010). The concept of prevention that was discussed in earlier education was primary prevention. This is because primary prevention is the most efficient method of preventing diseases, according to research. With this strategy, the general public may easily access health facilities (Ndindjock et al., 2011; Neil et al., 2002).

Numerous epidemiological studies have also revealed a hitherto high prevalence of prehypertension or hypertension among university students in Nigeria (Familoni and Familoni, 2011), Malaysia (Antal et al., 2006), Libya (Tayem et al., 2012), Hungary (Antal et al., 2006), and Libya (Lee et al., 2010). Indeed, hazardous environmental circumstances including sedentary behaviour, smoking, bad eating practices, and so on are still present for university students (Giroto et al., 1996). Hypertension in adolescents and young adults is linked to long-term detrimental consequences on health. Hypertension is a substantial variable risk factor for cardiovascular death and morbidity (Juhola et al., 2013; and Wang, 2008).

CONCLUSION

The study was designed to explore the prevalence of hypertension and preventive knowledge among university students. A sample of 100 hypertensive students was selected for this purpose, The data shows a maximum participation of the age group of 24 to 27 years, of which 42 students have knowledge of the disease and 34 who are currently under treatment. Among 100 students 89% argued that HBP is preventable. High level of stress, tension and over thinking was perceived by 79% of students as sign of HBP. In 51% cases ranges for HBP were >120/80 but ≤ 139/89 and 76% respondents reported headache, dizziness, and general tiredness as symptoms of HBP. A healthy lifestyle will help to avoid or prevent illness was recorded in 99% cases while 87% said that Hypertension is preventable.

Study reveals that the majority of university students have good knowledge about symptoms and preventive measures to prevent or overcome the issue. However, the important question is how many of these are using preventive measures in their daily lives and what is the result. The study also reveals that PhD students are more concerned about knowledge and treatment of hypertension. The

study further suggests developing and investigating hypotheses about causes of this growing trend and practices of “treatment attitude/patterns” among university students.

REFERENCES

- Alain, V., Jean, L. V., Didier, P. L. G., Frederick, A. A., Leigh, E., Allison, W. et al. (2011). Characteristics, practice patterns, and outcomes in patients with acute hypertension: European registry for studying the Treatment of Acute hypertension (Euro-STAT). *Crit Care*; 15: R271.
- Antal, M., Nagy, K., Regoly-Merei, A., Biro, L., Szabo, C. & Rabin, B. (2006). Assessment of cardiovascular risk factors among Hungarian university students in Budapest. *Annals of Nutrition and Metabolism*, 50:103-107.
- Banegas, J. R., Guallar-Castillón, P. & Rodriguez-Artalejo, F. (2011). Association between awareness, treatment, and control of hypertension, and quality of life among older adults in Spain. *AM J Hypertens*; 19: 686-693.
- Bardage, C. & Isacson, D. G. (2011). Hypertension and health-related quality of life: an epidemiological study in Sweden. *J clin epidemiol*; 54: 172-181.
- Chen, X. & Wang, Y. (2008). Tracking of blood pressure from childhood to adulthood: a systematic review and meta-regression analysis. *Circulation*; 117:3171–80.
- Chow, C. K., Teo, K. K., Rangarajan, S., Islam, S., Gupta, R., Avezum, A. et al. (2013). Prevalence, awareness, treatment, and control of hypertension in rural and urban communities in high-, middle-, and low-income countries. *JAMA* ;310:959–68.
- Coresh, J., Wei, G. L., McQuillan, G., Brancati, F. L., Levey, A.S., Jones, C. et al. (2001). Prevalence of high blood pressure and elevated serum creatinine level in the United States: findings from the third National Health and Nutrition Examination Survey (1988–1994). *Arch Intern Med*;161:1207–16.
- Familoni, I. F. & Familoni, O. B. (2011). Determinants and perception of cardiovascular risk factors among secondary school teachers in Oyo state Nigeria. *African Journal of Medicine and Medical Science*; 40(4):339-343.
- Giroto, C. A., Vacchino, M. N., Spillman, C. A. & Soria, J. A. (1996). Prevalence of cardiovascular risk factors in first year university students. *Revista de Saude Publica*; 30(6): 576-586.
- Haralambos, G. (2009). Pathogenesis of hypertension: A review. *J Med Sci*; 2: 25-8.
- Jafar, T. H., Levey, A. S., Jafary, F. H., White, F., Gul, A. M. H., Abdul, Q. et al. (2003). Ethnic subgroup differences in hypertension in Pakistan. *J hypertens*; 21: 905-12.
- Joseph, F. S., Preeti, J. B., Randall, S., Robert, E. H., Micheal, C. K., Peter, S. P. et al. (2009). Initial emergency department systolic blood pressure predicts left ventricular systolic function in acute decompensated heart Failure. *Congest Heart Fail*; 15: 9-13
- Joshua, D.S., Gary, C. B. & Melissa, M. B. (2002). The Quality of Life of Patients With Hypertension. *J Clin Hypertens*. 4(3): 181–188.
- Juhola, J., Magnussen, C. G. & Berenson, G. S. et al. (2013). Combined effects of child and adult elevated blood pressure on subclinical atherosclerosis: the International Childhood Cardiovascular Cohort Consortium. *Circulation*;128:217–24.
- Kawecka, J. K., Klocek, M. & Tobiasz, A. B. (2006). Quality of life in patients with arterial hypertension. *Typyrzele*; 122.
- Lee, P. Y., Ong, T. A., Muna, S., Syed-Alwi, SAR. & Kamarudin, K. (2010). Do university students have high cardiovascular risk? A pilot study from Universiti Malaysia Sarawak (Unimas). *Malaysian Family Physician*;5(1):41-43.
- Lim, S. S., Vos, T., Flaxman, A. D., Danaei, G., Shibuya, K., Adair-Rohani, H., Amann, M. et al. (2012). A comparative risk assessment of burden of disease and injury attributable to 67 risk factors and risk factor clusters in 21 regions, 1990– 2010: a systematic analysis for the Global Burden of Disease Study 2010. *Lancet* ;380:2224–60.
- Liu, L., Puente, J. G., Li, Y. & Jiang, X. (2005). Hypertension and health-related quality of life: an epidemiological study in patients attending hospital clinics in China. *J hypertens*. 23(9): 1667-76.
- Lynda, A. S., Christopher, B. G., Joseph, F. D., Alpeh, A., Frank, W. P., Peter, A. M. et al. (2010). Acute kidney injury and cardiovascular outcomes in acute severe hypertension. *Circulation*; 12: 2183-91.

- Maher, D., Smeeth, L. & Sekajugo, J. (2010). *Health transition in Africa: practical policy proposals for primary care*. Available: <http://www.who.int/bulletin/volumes/>. Accessed 25 January 2019.
- Ndindjock, R., Gedeon, J., Mendis, S., Paccaud, F. & Bovet, P. (2011). *Potential impact of single-risk-factor versus total risk management for the prevention of cardiovascular events in Seychelles*. Available: <http://www.who.int/bulletin/volumes/89/4/10-082370/en/> Accessed 15 March 2011.
- Patnaik, A. & Choudhury, K. C. (2015). Assessment of risk factors associated with hypertension among undergraduate medical students in a medical college in Odisha. *Advanced Biomedical Research*;4(38):1-3.
- Patricia, M. K., Megan, W., Kristi, R., Paul, K. W. & Jiang, H. (2005). Global burden of hypertension: analysis of worldwide data. *Lancet*; 365: 217-23.
- Reddy, K. S. (1996). Hypertension control in developing countries: generic issues. *J Hum hypertens*; 10(1): 33–38.
- Soliman, M., Salamony, O., Khashab, K., Sherbiny, N. & Khamis, S. (2014). Study of hypertension among Fayoum University students. *International Journal of Public Health Research*; 2(2):15-19.
- Staessen, J. A., Fagard, R., Thijs, L., Celis, H., Arabidze, G. G., Birkenhäger, W. H. et al. (1997). Randomized double-blind comparison of placebo and active treatment for older patients with isolated systolic hypertension. The Systolic Hypertension in Europe (Syst-Eur) Trial Investigators. *Lancet* ;350:757–64.
- Tayem, Y. I., Yaseen, N. A., Khader, T. W., Abu Rajab, O. L., Ramahi, B. A. & Saleh, M. H. (2012). Prevalence and risk factors of obesity and hypertension among students at a central university in the West Bank. *Libyan Journal of Medicine*; 7(10):1-8.
- Wang, R., Zhao, Y., He, X. et al. (2009). Impact of hypertension on health -related quality of life population-based study in Shanghai, China. *Public Health*; 123: 534-539.
- Wilson, P. W. (1994). Established risk factors and coronary artery disease: the Framingham Study. *Am J Hypertens*: 7:7S–12S.
- World Health Organization (2002). *The World Health Report 2002: Reducing Risks, Promoting Healthy Life*. Geneva.