SOCIODEMOGRAPHIC DETERMINANTS OF HYPERTENSION AMONG PATIENTS VISITING MEDICAL OPD PMC HOSPITAL NAWABSHAH.

Imran Ali Jamali[1], Atta Muhammad Chandio[2], Sher Muhammad Chandio[3], Munwar-us-Salam[4], Zenab Shumaila[5], Nousheen Khaleeq[6].

ABSTRACT

INTRODUCTION: Hypertension is the commonest health issue presents with high magnitude in adult population all over the world. Information regarding prevalence of hypertension is available but age and gender wise prevalence is not properly reported and association of socio demographic factors is not being thoroughly studied in rural as well as in urban areas. **OBJECTIVES:** To determine the frequency and socio-demographic determinant of hypertension among patients visiting medical OPD at PMC Hospital Nawabshah. **METHODS:** This cross-sectional study was carried out on 350 hypertensive patients came to Medical OPD of PMCH Shaheed Benazirabad. The sampling technique was convenience sampling with exclusion criteria of pregnant females and non-consenting patient. A well-designed structured questionnaire was used for data collection and data was analyzed through SPSS. **RESULTS:** the overall prevalence of hypertension was 19.5%. The prevalence of hypertension was high 56.6% in 46-65 years age group, 56.3% in males, 51.4% in urban residents, 70.9% in Sindhi, 96.6% in married individuals, 41.1% in house wives, 56% in illiterates and 61.7% in individuals from lower socioeconomic class. **CONCLUSION:** Hypertension appears to be one of the most frequent complications related to elderly. According to this study prevalence of hypertension in district Shaheed Benazirabad is 19.5%. The study demonstrates that socio-demographic factors play crucial role in identifying the hypertension

KEY WORDS: Hypertension, Socio-demographic determinants, Nawabshah, Shaheed Benazirabad.

1. Lecturer, Department of Community Health Sciences, Peoples University of Medical and Health Sciences SBA.
2. Professor, Department of Community Medicine Gambat Institute of Medical Sciences, Gambat.
3. Lecturer, Department of Community Health Sciences, Peoples University of Medical and Health Sciences SBA.
4. Lecturer, Begum Bilquees Sultana Institute of Nursing, Peoples University of Medical and Health Sciences SBA.
5. Lecturer, Department of Community Health Sciences, Peoples University of Medical and Health Sciences SBA.
6. Post Graduate Trainee, Peoples Medical Collage Hospital Nawabshah.

For correspondence: Imran Ali Jamali[1]Lecturer, Department of Community Health Sciences, Peoples University of Medical and Health Sciences SBA.

INTRODUCTION

All around the globe, cardiovascular diseases are one of the biggest public health issues and have been recognized as a foremost reason of demise and debility in most of the industrialized and some of the developing and third world countries [1-2]. Hypertension is the major vital risk aspect for cardiovascular diseases such as heart failure, coronary artery disease, stroke and end-stage renal disease [3].

After years of research and series of studies the risk factors associated with hypertension are categorized into non-modifiable and modifiable risk factors. Ethnicity, genetic factors, age and sex are considered as non-modifiable risk factors whereas modifiable risk factors include stress, oral contraceptives, physical inactivity, salt intake, obesity, decreased dietary fibers, saturated fat and alcohol [4].

Hypertension or high blood pressure has been recognized as the most important single factor to the world-wide burden of morbidity and death, due to changes that are mainly mediated by stroke and coronary heart disease, and account for nearly 9.4 million deaths annually [5]. The United Nations (along with many public health participants) has acknowledged NCDs a reason for worldwide alarm. According to estimation hypertension has affected about 1 billion individuals globally and about 25% of the world's adults have hypertension have hypertension, and it is supposed to raise up to 29% by 2025[6].

Data regarding hypertension in Pakistan is relatively scarce. Two extensive studies regarding hypertension— one based on National Health Survey1990–1994 and the other was based on northern area's rural settings showed 19.1% and 14% of prevalence[7-8]. Nevertheless, these studies were conducted two decades ago so their projection to show current estimate of hypertension is not valid. A massive survey regarding prevalence, control, treatment and awareness of hypertension in screening camps of central Punjab's rural areas from 2008 to 2015 revealed 35.1% hypertension crude prevalence and age-standardized prevalence was 34.4%[9].

Data regarding hypertension and its risk factors which is relatively scarce in Sindh is necessary to coup the problem. The present study was aimed to highlight its burden. Results and data from current study will help higher health authorities in estimating the local magnitude of hypertension to take out vital steps to control problem and its risk factors and it will create sense of awareness in residents regarding the hypertension and its risk factors.

MATERIAL AND METHODS

This cross sectional study was conducted on patients visiting to Medical OPD of PMCH Shaheed Benazirabad between 23rd September 2019 to 23rd February 2020. Sample size was 350 computed using 95% confidence level, 1.96 degree of accuracy and 30% prevalence. Sample was drawn through Convenience sampling. Consenting patients of both genders above 18 years of age were included in the study, non-consenting patients and pregnant women were excluded from study.

Data collection procedure

After approval from authorities, the interview was conducted by researcher himself by administering structured questionnaire containing sociodemographic variables under study such as age, gender, residence, ethnicity, marital status, occupation, education status and socioeconomic status. Diastolic and systolic blood pressure was taken with the help of sphygmomanometer and stethoscope by placing it under cuff at cuboidal fossa of right arm in sitting position. Two separate reading were taken 5 minutes apart. Restriction (exclusion and inclusion criteria) was strictly applied to control confounding. Those having systolic blood pressure more than 139mmHg and diastolic blood pressure more than 89 mmHg were marked as hypertensive.

Data analysis procedure

Data was entered and analyzed through the computer Software Statistical Package for Social Sciences SPSS (version 22). A confidence level of 95% was used for study. The variables related with prevalence of hypertension were presented as frequency and percentages. The results were presented by charts, tables, graphs. Table and charts were used to present data where ever they were needed.

RESULTS

A total number of 1795 patients visited Out Patient Department (OPD) during study duration and out of them 350 (19.5%) patients were found to be hypertensive. The prevalence of hypertension was 56.6% in 46-65 years age group followed by 35.7% in 25-45 years and least 7.7% in 66 years and above age group.

Males were more affected by hypertension 56.3% as compare to 43.7% in females. Prevalence was slightly higher 51.4% in urban residents than 48.6% in rural residents. Ethnic distribution of hypertension was high 70.9% in Sindhis and least 4.3% in Balochs.

Prevalence was at its peak in married individuals 96.6% followed by 3.1 in unmarried individuals. Frequency of hypertension was higher in house wives 41.1% and least 1.7% in private employees. Illiterate patients formed bulk of sample with 56% prevalence and individuals with intermediate education were seems to be less affected with 4.9% prevalence. Frequency of hypertension was high 61.7% in individuals from lower socioeconomic class and least 9.1% in individuals from lower socioeconomic class

Table:1 Prevalence of Hypertension

Total Number of Patients visited Out Patient Department (OPD) during study duration	1795
Total Number of patients with Hypertension (known cases)	350
Prevalence of hypertension	19.5%

Table:2 Age Wise Distribution

Age	Frequency	Percentage
25-45	125	35.7
46-65	198	56.6
66 and onward	27	7.7
Total	350	100

Table:3 Gender Wise Distribution

Sex	Frequency	Percentage
Male	197	56.3
Female	153	43.7
Total	350	100

Table:4 Residence

Residence	Frequency	Percentage
Urban	180	51.4
Rural	170	48.6
Total	350	100

Table:5 Ethnic variations

Ethnicity	Frequency	Percentage
Sindhi	248	70.9
Muhajir	58	16.6
Baloch	15	4.3
Punjabi	25	7.1
Others	4	1.1
Total	350	100

Table:6 Marital status

Marital status	Frequency	Percentage
Unmarried	11	3.1
Married	338	96.6
Widow	1	0.3
Total	350	100

Table:7 Occupational distribution

Occupation	Frequency	Percentage
Government employee	51	14.6
Private employee	6	1.7
Agriculturist	53	15.1
House wife	144	41.1
Laborer	18	5.1
Others	62	17.1
Unemployed	16	4.6
Total	350	100

Table:8 Educational status

Education	Frequency	Percentage
Illiterate	196	56
Primary	60	17.1
Middle	17	4.9
High	27	7.7
Intermediate	17	4.9
Graduation	33	9.4
Total	350	100

Table:9 Socioeconomic status

Socioeconomic status	Frequency	Percentage
Lower class	216	61.7
Middle class	102	29.1
Upper class	32	9.1
Total	350	100

DISSCUSSION

The study was conducted at Medical OPD of Peoples Medical Hospital Nawabshah. 350 hypertensive patients of different age group were interviewed and blood pressure was measured through auscultatory method by stethoscope and sphygmomanometer.

According to World Health Organization hypertension burden in Pakistan was 37.3% in 2013 [10]. The results of current study are obviously lower than mentioned by WHO but almost entirely comparable with those estimated by National Health Survey (18.9%) (Table: 1) [11-12]. Other studies conducted in Pakistan have reported 52.1%, 34.4% and 27.4% prevalence of hypertension [13-15]. These differences in prevalence can attributed to the different study setting, study population and sample differences.

Age is one of the key determinants of chronic diseases, an increase age is marked by increase in fraction of chronic diseases. The current study reveals that 56.6% of hypertensive is from 46-65 years age group and only 7.7% are from above 66 years (Table: 2). Results can be compared with the Salman et all.. In screening camps of rural areas of central Punjab with an exception in above 60 years age group [14]. It is may be due to a lesser number of above 60 years subjects in study population.

Numerous studies have concluded that female gender is risk factor for hypertension [13-14]. In this study 43.7 % of hypertensive patients were women and 56.3 % were belong to male gender (Table: 3). It can be argued that due to cultural restriction women from rural Sindh usually have less freedom together with life style differences results in less exposure to hypertension risk factors.

A recently conducted systematic review on hypertension in Pakistan reported urban

residence a potential risk factor for hypertension [16]. Our results are found to be identical, revealing that 51.4% of hypertensive patients reside in urban areas while 48% were from rural, a suggestive of the fact that sedentary life style and use of junk foods have an important role in developing hypertension and heart diseases. (Table: 4).

There is a notable difference in ethnic vulnerability to hypertension even in identical geographic domain, one such study showed that Baloch and Pashtuns have higher prevalence of hypertension but the ethnicity was defined on the basis of mother tongue [17]. Our study showed that 70.9% of hypertensive population belonged from Sindhi community and 16.6% from Muhajir, 4.3% was Baloch and 7.1% was Punjabi. These differences in hypertension on the basis of ethnicity are very hard to isolate from other risk factors. The reason behind high prevalence of hypertension in Sindhi's in current study is due to the fact that a large number of sample was drawn from Sindhi community (Table: 5).

96.6% of hypertensive patients were married comparatively to those 3.1% who were unmarried (Table: 6). It may be purely due to the age as most of above 30 years individuals are married on the other hand stress related to responsibilities of daily life routine to manage a proper living standard of family.

The study revealed that out of 350 hypertensive patients, 14.6% patients were government employee, 1.7% were private employee, 15% were agriculturist, 45.7% were house wives and 5.1 % were laborers. (Table: 7)

Education is regarded as mediating component to health awareness approved by some reports [18]. Pakistan has very low literacy rate and poor socioeconomic status which is more in rural areas. The findings of this study show that education has direct correlation with hypertension. 56% of hypertensive patients were illiterate, 17.1% with primary education, and 7.7% with higher education were hypertensive. (Table: 8). The results can be compared with a population-based study conducted in Iran which concluded an inverse correlation between hypertension and education suggesting that illiterates 2 times most likely to suffer from hypertension [18]. Hypertension is a critical health issue of Pakistan. Normal blood pressure level has been considered very necessary for health of the individual to live a productive life. Only wide spread health education is the way to prevent this explosion.

Numerous studies and surveys have linked hypertension with hypertension, the lower class is found to have health distorting life style coupled with poor diet and together with smoking and alcohol [19]. Previous surveys reveal that a major fraction of population accounting for 65 percent of Pakistan earn somewhat below 7000 rupees a month. Unfortunately, this fraction is increased in rural areas reaching up to 70% of total population. Caloric and protein intake and food availability has been improved from last five decades. Still a significant improvement is needed to reach standard level of nourishment. Cardiac diseases account for one of leading causes of mortality and morbidity in modern world, similarly this study shows that 61.7% of hypertensive population belongs to lower class as comparative to 9.1% who belongs to upper socioeconomic status. (Table: 9). The results can matched to a systematic review which described lower class tends to have higher pressure [19].

CONCLUSION

Hypertension appears to be one of the most frequent complications related to elderly. According to this study prevalence of hypertension in district Shaheed Benazirabad is 19.5%. The study demonstrates that sociodemographic factors play crucial role in identifying the hypertension Proper way of education, better health services, and chances of employment, good social behavior and healthy attitude of thinking can help to defeat the battle of hypertension and other non-communicable diseases in Pakistan.

REFERENCES

1. Lopez AD, Mathers CD, Ezzati M, Jamison DT, Murray CJ. Global and regional burden of disease and risk factors, 2001: systematic analysis of

population health data. Lancet. 2006;367(9524):1747–57.

2. He J, Gu D, Wu X, Reynolds K, Duan X, Yao C, et al. Major Causes of Death among Men and Women in China. N Engl J Med. 2005;353(11):1124–34

3. Chen X, Li L, Zhou T, Li Z. Prevalence of Hypertension in Rural Areas of China: A Meta-Analysis of Published Studies. Clarke R, editor. PLoS ONE. 2014;9(12):e115462.

4. Brain R. Walker, Nicki R. Colledge, Stuart H. Ralston, Ian D Penman: Davidson's Principles and Practices of Medicine, 22nd edition, 2014.

5. K. Park, Park's textbook of preventive and social medicine, 20th edition 2009.

6. Craig LS, Gage AJ, Thomas AM. Prevalence and predictors of hypertension in Namibia: A national-level cross-sectional study. Sacco S, editor. PLoS One. 2018;13(9); e0204344.

7. Tripathy JP, Thakur JS, Jeet G, Chawla S, Jain S. Alarmingly high prevalence of hypertension and pre-hypertension in North India-results from a large cross-sectional STEPS survey. Li Y, editor. PLoS One. 2017;12(12): e0188619.

8. Jafar TH, Levey AS, JafaryFH,White F, Gul A, Rahbar MH, et al. Ethnic subgroup 342 differences in hypertension in Pakistan. J Hypertens. 2003;21(5):905–12.

9. Shah S, Luby S, Rahbar M, Khan A, McCormick J. Hypertension and its determinants among adults in high mountain villages of the Northern Areas of Pakistan. J Hum Hypertens. 200;15(2):107–12.

10. World Health Organization. Pakistan Hypertension Fact Sheet Geneva, Switzerland: WHO. 2013. [Cited 2021 March 1]. Available from: URL: https://www.who.int/publications/m/item/hypertension-pak-country-profile-pakistan-2020.

11. Ishtiaq S, Ilyas U, Naz S, Altaf R, Afzaal H, Muhammad SA, et al. Assessment of the risk factors of hypertension among adult & elderly group in twin cities of Pakistan. J Pak Med Assoc. 2017; 67:1664-9.

12. World Health Organization. Draft action plan for the prevention and control of non-communicable diseases 2013–2020: report by the Secretariat. Geneva, Switzerland: WHO. 2013 [Cited 2021 March 13]. Available from: URL: http://apps.who.int/gb/ebwha/pdf_files/eb132/b132_7-en.pdf

13. Memon F, Beaney T, Clarke J, Ishaq M, Bai K. An analysis of blood pressure screening results from Pakistan-South Asia. Eur Heart J Suppl.2019; 23:89-91.

14. Shafi ST, Shafi T. A survey of hypertension prevalence, awareness, treatment, and control in health screening camps of rural central Punjab, Pakistan. J Epidemiol Glob Health. 2017 06;7(2):135-40.

15. Mubarik S, Malik SS, Mubarak R, Gilani M, Masood N. Hypertension associated risk factors in Pakistan: A multifactorial case-control study. J Pak Med Assoc. 2019 Aug;69(8):1070-3.

16. Riaz M, Shah G, Asif M, Shah A, Adhikari K, Abu-Shaheen A. Factors associated with hypertension in Pakistan: A systematic review and meta-analysis. PLoS One. 2021;16(1):e0246085.

17. Jafar TH, Levey AS, Jafary FH, White F, Gul A, Rahbar MH, et al. Ethnic subgroup differences in hypertension in Pakistan. J Hypertens. 2003 May;21(5):905-12.

18. Veghari G, Sedaghat M, Maghsodlo S, Banihashem S, Moharloei P, Angizeh A, et al. Impact of literacy on the prevalence, awareness, treatment and control of hypertension in adults in Golestan Province (northern Iran). Caspian J Intern Med. 2013;4(1):580-4.

19. Leng B, Jin Y, Li G, Chen L, Jin N. Socioeconomic status and hypertension: a meta-analysis. J Hypertens. 2015 Feb;33(2):221-9.