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Original Research Article.

Analysis of Prevalence of Hypertension in Patients visited to Medicine OPD Of a Tertiary Care Hospital

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ABSTRACT

Background: Hypertension (or HTN) or high blood pressure is defined as abnormally high arterial blood pressure. The present study was conducted to assess prevalence of hypertension in patients visited to hospital.

Materials and Methods: The present study was conducted to assess the prevalence of hypertension in 800 adults of the age 20years and above. Self-administered questionnaire was handed over to the participants and detailed history was taken. Blood pressure measurement was carried out as per the American Heart Association guidelines. The data were analyzed using Statistical Software Package for Social Sciences (SPSS version 22).

Results: In the present study total participants were 800 in which 34.37% were males and 65.62% were females. Males (37.81%) were more prehypertensive than females. Stage I and Stage II hypertension was also maximum in males i.e. 25.09% & 17.90% respectively. In age group 36-50 years prehypertensive patients (38.39%) were more. Stage I patients were also more in age group 36-50yrs (31.22%). Stage II patients were more in age group above 50yrs (19.43%).

Conclusion: Present study concluded that males were more hypertensive than females. In age group 36-50 years prehypertensive and Stage I patients were more. Stage II patients were more in age group above 50yrs.

Keywords: Hypertension, Blood Pressure, American Heart Association Guidelines.

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INTRODUCTION

Hypertension, defined as having a systolic blood pressure greater than or equal to 140 mmHg or diastolic blood pressure greater than or equal to 90 mmHg, is a leading risk factor for cardiovascular disease and stroke[1], two of the five leading causes of death in the United States.[2]

Hypertension is a growing problem in India and causes significant burden on the health system. According to data from the Global Burdan Disease study of 2016, hypertension led to 1.63 million deaths in India in the year 2016 alone.[3] GBD data also showed that over half of the deaths due to ischaemic heart disease (54.2%), stroke (56.2%) and chronic kidney disease (54.5%) were attributable to high systolic BP.[4]

Hypertension is consistently related to the development of ischemic heart disease, heart failure, stroke, and chronic kidney disease; an estimated 57% and 24% of stroke and coronary artery disease-related deaths, respectively are due to hypertension.[5-8]

The prevalence of hypertension increases with age, from 7% among those aged 18–39 to 65% among those aged 60 and over.[9,10]

According to data from the 2013 National Ambulatory Medical Care Survey (NAMCS), 34% of all adult visits to office-based physicians were made by those with hypertension.[11] The present study was conducted to assess prevalence of hypertension in patients visited to hospital.

MATERIALS AND METHODS

The present study was conducted in Department of General Medicine, B.V.V. Sangha's S Nijalingappa Medical College & H.S.K. Hospital & Research Centre, Bagalkot, Karnataka (India) to assess the prevalence of hypertension in 800 adults of the age 20years and above. Informed consent was taken from the patients. Self-administered questionnaire was handed over to the participants. The questionnaire with questions included the personal history, family history of hypertension, details of major hypertension risk factors and clinical data.

Blood pressure measurement: blood pressure measurement was carried out by trained medical students as per the American Heart Association guidelines.[12] BP was measured on the right arm

in sitting position using mercury sphygmomanometer after 5 min of rest so as the bladder encircles at least 80% of the circumference of the arm at the point midway between the olecranon and acromion.[13]

Three successive readings were taken at an interval of 3 min and the lowest reading was recorded as the BP. The data were analyzed using Statistical Software Package for Social Sciences (SPSS version 22).

Table 1: Distribution according to gender

Hypertension classification	Gender	
	Male (%)	Female (%)
Normal	30(10.90%)	195(37.14%)
Prehypertension	104(37.81%)	171(32.57%)
Stage I	69(25.09%)	94(17.90%)
Stage II	72(26.18%)	65(12.38%)
TOTAL (n=800)	275(34.37%)	525(65.62%)

Table 2: Distribution according to age group

Hypertension classification	Age group (yrs)		
	20-35	36-50	Above 50
Normal	115(48.52%)	65(27.42%)	45(15.90%)
Prehypertension	42(17.72%)	91(38.39%)	142(50.17%)
Stage I	48(20.25%)	74(31.22%)	41(14.48%)
Stage II	32(13.50%)	37(15.61%)	55(19.43%)
Total	237(29.62%)	267(33.37%)	283(35.37%)

RESULTS

In the present study total participants were 800 in which 34.37% were males and 65.62% were females. Males (37.81%) were more prehypertensive than females. Stage I and Stage II hypertension was also maximum in males i.e 25.09% & 17.90% respectively. In age group 36-50 years prehypertensive patients (38.39%) were more. Stage I patients were also more in age group 36-50yrs (31.22%). Stage II patients were more in age group above 50yrs (19.43%).

DISCUSSION

According to the WHO 2008 estimates, the prevalence of raised BP in Indians was 32.5% (33.2% in men and 31.7% in women).[14] However, only about 25.6% of treated patients had their BP under control, in a multicenter study from India on awareness, treatment, and adequacy of control of HTN.[15]

According to World Health Organization (2015), the overall prevalence of hypertension in India was 23.5% and gender specific prevalence was 24.2% and 22.7% among the men and women, respectively.[16]

In the present study total participants were 800 in which 34.37% were males and 65.62% were females. Males (37.81%) were more prehypertensive than females. Stage I and Stage II hypertension was also maximum in males i.e 25.09% & 17.90% respectively. In age group 36-50 years prehypertensive patients (38.39%) were more. Stage I patients were also more in age group 36-50yrs (31.22%). Stage II patients were more in age group above 50yrs (19.43%).

The study investigated hypertension prevalence in the age group 30 to 74 years and obtained a prevalence of 52.3% according to the American College of Cardiology/American Heart Association guidelines.[17]

Data from the Framingham Heart study reports that individuals who are normotensive at 55 years of age have a 90% lifetime risk of developing hypertension.[18]

Variation in prevalence of HTN (20–59%) was seen among the studies from rural east India with higher prevalence seen from Assam (owing to the indigenous prevalence of excess salt, alcohol, and Khaini consumption among tea plantation workers of Assam).[19]

The results of a recent meta-analysis showed there is no association between an individual's sex and the presence of hypertension.[20]

Vasan et al., in their study, conducted among 1298 participants also found the significant association of hypertension with age.[21]

CONCLUSION

Present study concluded that males were more hypertensive than females. In age group 36-50 years prehypertensive and Stage I patients were more. Stage II patients were more in age group above 50yrs.

REFERENCES

1. Merai R, Siegel C, Rakotz M, Basch P, Wright J, Wong B, Thorpe P. CDC Grand Rounds: A public health approach to detect and control hypertension. MMWR Morb Mortal Wkly Rep 2016; 65(45):1261–64.

2. Centers for Disease Control and Prevention. Leading causes of death. www.cdc.gov/nchs/fastats/leadingcauses-of-death.htm

3. Gakidou E, Afshin A, AlemuAbajobir A, Hassen Abate K, Abbafati C, Abbas KM, et al. Global, regional, and national comparative risk assessment of 84 behavioural, environmental and occupational, and metabolic risks or clusters of risks, 1990-

2016: A systematic analysis for the Global Burden of Disease study 2016. Lancet 2017; 390: 1345-422.
4. GBD Compare IHME Viz Hub. Global; both series, all ages, 2017, DALYS. Available from: https://vizhub.healthdata.org/gbd-compare/#
5. Rapsomaniki E, Timmis A, George J, et al. Blood pressure and incidence of twelve cardiovascular diseases: lifetime risks, healthy life-years lost, and agespecific associations in 1$25 million people. Lancet Lond Engl. 2014;383(9932):1899e1911. https://doi.org/10.1016/S0140-6736(14)60685-1.
6. Stokes J, Kannel WB, Wolf PA, D'Agostino RB, Cupples LA. Blood pressure as a risk factor for cardiovascular disease. The Framingham Study–30 years of follow-up. Hypertens Dallas Tex 1979. 1989;13(5 Suppl):I13eI18.
7. Klag MJ, Whelton PK, Randall BL, et al. Blood pressure and end-stage renal disease in men. N Engl J Med. 1996;334(1):13e18.
8. Rodgers A, Lawes C, MacMahon S. Reducing the global burden of blood pressure-related cardiovascular disease. J Hypertens Suppl Off J Int Soc Hypertens. 2000;18(1):S3eS6.
9. Yoon SS, Fryar CD, Carroll MD. Hypertension prevalence and control among adults: United States, 2011–2014. NCHS data brief, no 220. Hyattsville, MD: National Center for Health Statistics. 2015.
10. Health Resources and Services Administration. Hypertension control. Available from: https://www.hrsa.gov/quality/toolbox/measures/hypertension.
11. Ashman JJ, Rui P, Schappert SM. Age differences in visits to office-based physicians by adults with hypertension: United States, 2013. NCHS data brief, no 263. Hyattsville, MD: National Center for Health Statistics. 2016.
12. Pickering TG, Hall JE, Appel LJ, et al. Recommendations for blood pressure measurement in humans and experimental animals: Part 1: Blood pressure measurement in humans: A statement for professionals from the subcommittee of professional and public education of the American Heart Association Council on High Blood Pressure Research. Circulation 2005;111:697-716.
13. Chobanian AV, Bakris GL, Black HR, Cushman WC, Green LA, Izzo JL Jr., et al. The seventh report of the joint national committee on prevention, detection, evaluation, and treatment of high blood pressure: The JNC 7 report. JAMA 2003;289:2560-72.
14. Noncommunicable diseases country profiles 2011. http://www.who.int/nmh/countries/ind_en.pdf
15. Hypertension Study Group Prevalence, awareness, treatment and control of hypertension among the elderly in Bangladesh and India: a multicentre study. Bull World Health Organ 2001; 79:490–500.
16. World Health Organization, "Global Health Observatory data repository 2015," Tech. Rep., 2015, http://apps.who.int/gho/data/view.main.2464EST?lang=en.
17. Venkateshmurthy NS, Geldsetzer P, Jaacks LM, Prabhakaran D. Implications of the New American College of Cardiology guidelines for hypertension prevalence in India. JAMA Intern Med. 2018 Oct 1;178(10):1416–8.
18. R. S. Vasan, A. Beider, S. Seshadri et al. Residual life time risk for developing hypertension in middle – aged women and men: the Framingham Heart study. JAMA 2002; 287: 1003–10.
19. Hazarika NC, Biswas D, Narain K, Kalita HC, Mahanta J. Hypertension and its risk factors in tea garden workers of Assam. Natl Med J India 2002; 15:63–68.
20. Bosu WK, Reilly ST, Aheto JMK, Zucchelli E. Hypertension in older adults in Africa: a systematic review and meta-analysis. PLoS One. 2019;14:e0214934. Published online 2019 Apr 5. doi: 10.1371/journal.pone.0214934
21. Vasan RS, Beiser A, Seshadri S, Larson MG, Kannel WB, D'Agostino RB, et al. Residual lifetime risk for developing hypertension in middle-aged women and men: The Framingham heart study. JAMA 2002;287:1003-10.

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