



Incidence of Undiagnosed Hypertension in Patients Coming to OMFS OPD in Bareilly International University

¹Dr. Anand Mohan Singh, ²Dr. S. Gokkulakrishnan, ³Dr. Anurag Yadav, ⁴Dr. Niranjana Prasad Indra B, ⁵Dr. Jitendra Kumar Diwakar

¹PG Scholar, Dept. of Oral and Maxillofacial Surgery, Institute of Dental Sciences, Bareilly, U.P, India

²Prof. and Head, Dept. of Oral and Maxillofacial Surgery, Institute of Dental Sciences, Bareilly, U.P, India

³Reader, MDS, Dept. of Oral and Maxillofacial Surgery, Institute of Dental Sciences, Bareilly, U.P, India

⁴Professor, Dept. of Oral and Maxillofacial Surgery, Institute of Dental Sciences, Bareilly, U.P, India

⁵Assistant Professor, Institute of Dental Sciences, Bareilly, Uttar Pradesh, Bareilly International University, UP, India

Citation of this Article: Dr. Anand Mohan Singh, Dr. S. Gokkulakrishnan, Dr. Anurag Yadav, Dr. Niranjana Prasad Indra B, Dr. Jitendra Kumar Diwakar, “Incidence of Undiagnosed Hypertension in Patients Coming to OMFS OPD in Bareilly International University.” IJMSAR – October – 2023, Vol. – 6, Issue - 5, Page No. 29-33.

Copyright: © 2023, Dr. Anand Mohan Singh, et al. This is an open access journal and article distributed under the terms of the creative commons attribution noncommercial License. This allows others to remix, tweak, and build upon the work non commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

Corresponding Author: Dr. Anand Mohan Singh, PG Scholar, Dept. of Oral and Maxillofacial Surgery, Institute of Dental Sciences, Bareilly, U.P, India

Type of Publication: Original Research Article

Conflicts of Interest: Nil

ABSTRACT

Dentistry has been crucial in the early identification of patients with hypertension. Today, a notable proportion of individuals seeking dental care have undiagnosed high blood pressure or uncontrolled hypertension. This study aims to gather data on the incidence of hypertension in the patients who are unaware and coming for extractions in the department of OMFS, Bareilly International University. The sample size was 1538 with the age range between 18 years to 90 years from July 2022 to December 2022. 608 (39.5%) diagnosed as hypertensive. Of these, 396

(56.7%) were males and 212 (25.2%) were females. Age distribution was based on age, with 338 (38.5%) patients aged 18-36, 185 (38.5%) in 37-54, 77 (45.6%) in 55-72, and 8 (53.3%) in 73-90. Normal blood pressure was observed in 20.6% of patients, while prehypertensive and normal blood pressure were found in 25.5% and 23.9% of patients, respectively. Hypertension awareness should be promoted and health care facility should be accessed to all.

Keywords

Hypertension (HTN), Incidence, Bareilly, sphygmomanometer

INTRODUCTION

Hypertension is a significant public health issue, due to its widespread prevalence all over the world[1-4]. High blood pressure causes around 7.5 million deaths annually, or 12.8% of all fatalities globally[5]. In 2025, 1.56 billion adults are expected to have hypertension, according to predictions[6].

A key risk factor for coronary heart disease, chronic heart disease, and stroke is elevated blood pressure. The risk of stroke and coronary heart disease is directly associated with elevated blood pressure. Its consequences include heart failure, peripheral vascular disease, renal impairment, retinal haemorrhage, and visual impairment in addition to coronary heart disease and stroke[5].

It is a silent killer since very few early symptoms can be recognised before a serious medical emergency such a heart attack, stroke, or chronic renal failure[7, 8]. The only way to detect high blood pressure is through measurements because people are not aware of it.

Dentistry has been crucial in the early identification of patients with hypertension. Today, a notable proportion of individuals seeking dental care have undiagnosed high blood pressure or uncontrolled hypertension. Significant consequences like stroke, heart disease, renal disease, and retinal disease are very likely to affect these patients. When receiving dental care, those with extremely high blood pressure run a significant risk of developing serious medical issues. Because of these factors, dentistry must continue to emphasise the identification and referral of

high blood pressure patients. Also, more medically impaired individuals are seeking dental care, and during the more demanding dental operations including oral surgery, periodontal surgery, and dental implant placement, their blood pressure should be monitored[9].

This study aims to gather data on the incidence of hypertension in the patients who are unaware and coming for extractions in department of OMFS, Bareilly.

MATERIAL AND METHODS

Study Participants

A cross-sectional study was carried in the Department of Oral And Maxillofacial Surgery, Institute Of Dental Sciences, BIU, Bareilly from July 2022 to December 2022. The sample size was 1538 with the age range between 18 years to 90 years. Patients who were unaware of hypertension and coming for extractions, age between 18 to 90 were included in the study. Patients who were aware of their hypertension and other associated diseases, age above 90 and less than 18 were excluded from the study.

The Joint National Committee's Seventh Report on the Prevention, Detection, Evaluation, and Treatment of High Blood Pressure defined hypertension as having a systolic blood pressure (SBP) of 140 mm Hg or higher, a diastolic blood pressure (DBP) of 80 mm Hg or higher[7]. Total hypertension encompassed both previously recognised and unrecognised hypertension. Those who had a normal blood pressure level at the time of the survey and who had previously received information from a healthcare provider but were not receiving treatment were not deemed to have hypertension. The group designated as having hypertension was asked to self-report any prior

diagnoses of hypertension made by a medical expert.

PROCEDURE

BP Measurement and Study-Outcome Definitions

Prior to the survey, investigators received training in the measurement of blood pressure with a standard protocol[10]. Blood pressure was monitored on left arm using a standardised mercury sphygmomanometer (regular adult, large) while the subject was sitting still for five minutes and abstaining from caffeine, alcohol, exercise, and stress at least 30 minutes before the test[11]. On the same arm, blood pressure was measured three times in a row. The mean of the three readings was used for analysis. The blood pressure accuracy rate was 2 millimetres of mercury.

STATISTICAL ANALYSIS

Distribution of BP across the four classifications (normal, prehypertension, Stage I hypertension and Stage 2 hypertension) was calculated across four mutually exclusive age groups (18-36, 37-54, 55-72, 73-90). All analyses were subjected to standard statistical analysis using the statistical package for the social science, IBM(SPSS)software.

RESULTS

This Study was conducted to assess the incidence of hypertension in patients who were unaware and

coming for extractions in Department of OMFS, IDS, Bareilly. The systematical statistical analysis was performed after the data collection. The data was tabulated and graphs were plotted accordingly for better understanding of various parameters.

A total of 1538 patients were enrolled in this study. The total numbers of females enrolled were 840 and males were 698. On evaluation it was found that out of 1538 cases, 608 (39.5%) patients were diagnosed as hypertensive. (Chart 1). Out of 608 patients, 396 (56.7%) patients were males and 212(25.2%) patients were females (Table 1). When assessed age-wise it was noted that 338 (38.5%) patients out of 877 were in the age-group of 18-36 years, 185 (38.5%) patients out of 477 in 37-54 years, 77 (45.6%) patients out of 169 in 55-72 years and 8 (53.3%) patients out of 15 patients in 73-90 years (Table 2). 165 (20.6%) patients had normal SBP and 319 (39.9%) patients were diagnosed prehypertensive, 201 (25.5%) patients diagnosed with Stage 1 SBP, 115 (14.4%) patients diagnosed with stage II SBP. 191 (23.9%) patients had normal DBP, 191 (23.9%) patients diagnosed as prehypertensive, 431(53.9%) patients diagnosed with stage 1 DBP and 178 (22.3%) diagnosed with stage II DBP.

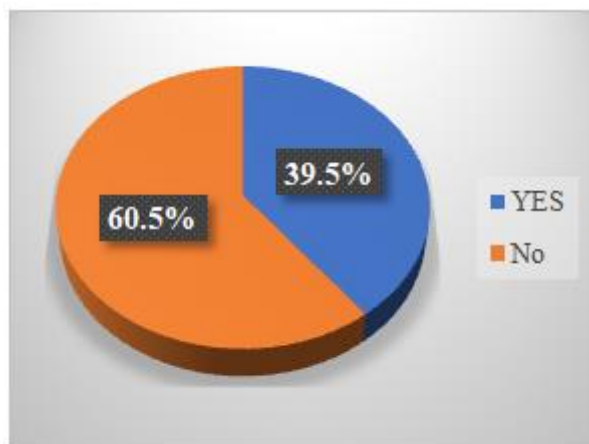


Chart 1: Distribution of Hypertensive cases

Table 2: Distribution of Hypertensive cases Gender wise

Sex	Number of cases	Number of Hypertensive cases	Percentage%
Males	698	396	56.7
Females	840	212	25.2
Total	1538	608	39.5

Table 3: Distribution of Hypertensive cases Age Group wise

Age Group (in Years)	Number of cases	Number of Hypertensive cases	Percentage%
18-36	877	338	38.5
37-54	477	185	38.8
55-72	169	77	45.6
73-90	15	8	53.3
Total	1538	608	39.5

DISCUSSION

We report higher incidence of hypertension (56.7%) among males who were unaware and came for extraction which is similar to study conducted by Jitendra kumar in 2013.¹²The highest numbers of patients (338) are in the age group of 18-36 years stating that most of the undiagnosed cases of hypertension are found in this age group. In 319 patients, the higher incidence of SBP found to be in prehypertensive stage. Similar results was found in the study by S. Kino et.al in 2016.¹³ Higher incidence of DBP was found to be in stage 1 hypertension which is among 431(53.9%) patients. This trend is troublesome as it put smore and more young Indians at risk of premature mortality. We observed that a larger proportion of participants who were unaware, had

normal blood pressure than was reported by Roy *et al.*¹⁴

CONCLUSION

There is a very high incidence of hypertension among male adults. Bareilly still has many undiagnosed hypertension cases. Awareness of hypertension should be promoted among ruala and urban populations. Improving healthcare access should help in BP control.

REFERENCES

1. Erem, C., et al., Prevalence of prehypertension and hypertension and associated risk factors among Turkish adults: Trabzon Hypertension Study. Journal of public health, 2009. 31(1): p. 47-58.

2. Ahmed, A., et al., Hypertension and associated risk factors in some selected rural areas of Bangladesh. *International journal of research in medical sciences*, 2014. 2(3): p. 925.
3. Mishra, C. and S. Kumar, Risk factors of hypertension in a rural area of Varanasi. *Indian J Prev Soc Med*, 2011. 42(1): p. 101-11.
4. Abebe, S.M., et al., Prevalence and associated factors of hypertension: a cross-sectional community based study in Northwest Ethiopia. *PloS one*, 2015. 10(4): p. e0125210.
5. Mendis, S., *Global status report on noncommunicable diseases 2014*. 2014: World health organization.
6. Tabrizi, J.S., et al., Prevalence and associated factors of prehypertension and hypertension in Iranian population: The lifestyle promotion project (LPP). *PloS one*, 2016. 11(10): p. e0165264.
7. Chobanian, A.V., 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(19): p. 2560-2571.
8. Prabakaran, J., N. Vijayalakshmi, and E. VenkataRao, Prevalence of hypertension among urban adult population (25-64 years) of Nellore, India. *Int J Res Dev Health*, 2013. 1(2): p. 42-9.
9. Little, J.W., The impact on dentistry of recent advances in the management of hypertension. *Oral Surgery, Oral Medicine, Oral Pathology, Oral Radiology, and Endodontology*, 2000. 90(5): p. 591-599.
10. Luepker, R.V., et al., *Cardiovascular survey methods*. Vol. 2. 2004: World Health Organization.
11. Gao, Y., et al., Prevalence of hypertension in China: a cross-sectional study. *PloS one*, 2013. 8(6): p. e65938.
12. Jitendra Kumar, *Epidemiology of hypertension, Clinical Queries: Nephrology, Volume 2, Issue 2, 2013, Pages 56-61, ISSN 2211-9477, https://doi.org/10.1016/j.cqn.2013.04.005*.
13. Kini S, Kamath VG, Kulkarni MM, Kamath A, Shivalli S. Pre-hypertension among young adults (20–30 Years) in coastal villages of Udupi District in Southern India: an alarming scenario. *PloS one*. 2016 Apr 29;11(4):e0154538.
14. Roy A, Praveen PA, Amarchand R, Ramakrishnan L, Gupta R, Kondal D, Singh K, Sharma M, Shukla DK, Tandon N, Reddy KS. Changes in hypertension prevalence, awareness, treatment and control rates over 20 years in National Capital Region of India: results from a repeat cross-sectional study. *BMJ open*. 2017 Jul 1;7(7):e015639.