

An Epidemiological Study of Hypertension among Resident of Bharatpur, Rajasthan

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Abstract

Background: Hypertension is a major public health problem of the world. Around 7.5 million deaths or 12.8% of the total of all annual deaths worldwide occur due to high blood pressure. It is predicted to be increased to 1.56 billion adults with hypertension in 2025. In India there is 24-30% of prevalence of hypertension in urban areas and 12-14% in rural areas. The objectives of the study were to find out the prevalence of hypertension in study population of 18 years and above

Methods: A community based cross sectional study was carried out in Bharatpur(Rajasthan). Sample size of 500 participants of age more than 18 yrs residing in study area taken. Data collected by using systematic random sampling by house to house visit. A semi-structured & pretested questionnaire used to interview the patients after obtaining their consent. The data was analyzed using Epi-info software. Appropriate statistical tests were applied.

Results: In our study, 33.6% were having normal BP. 34.3% were having pre hypertensive, 24.4% patients

were having stage I and 7.6% stage II hypertensive. Females have shown higher prevalence of HTN (36.5%) compared to male (29.04%). There is Insignificant association between HTN and sex ($p=0.223$). Higher prevalence of hypertension seen in age group >60 yrs. There is highly significant association between HTN and age ($p<0.0001$).

Conclusion-It is concluded that, prevalence of hypertension found to be 32.0%. most of hypertensive were already diagnosed. As age advances, prevalence of HTN also increases. Prevalence was more in females compared to males.

Keywords: Hypertension, Gender, Age, Prevalence.

Introduction

As per the Global health statistics, 63% of deaths were due to non-communicable diseases (NCD) and cardiovascular disease (CVD) was the most predominant (48%). 13% of global deaths are attributable for raised blood pressure which is a leading behavioural and physiological risk factor.¹ High blood pressure is ranked as the third most important risk factor for an attributable burden of NCD in South Asia.²

Hypertension [HTN] is responsible for 57% of stroke deaths and 24% of coronary heart disease [CHD] deaths in India as per the studies in 2003.³

WHO named hypertension as a Silent Killer as this disease causes immense harm to our body by appearing asymptomatic by outside.⁴ In India there is 24-30% of prevalence of hypertension in urban areas and 12-14% in rural areas.⁵

Accurate estimates of hypertension prevalence are therefore necessary to plan effective control measures. There is a felt need for the community based studies in urban and rural areas of our country with a view to determine the geographic differences in the prevalence of hypertension and the awareness of being hypertensive, their treatment seeking behaviour as well as their compliance to the treatment in terms of regularity. The present study was undertaken to estimate the prevalence of hypertension among the resident of Bharatpur (Rajasthan)

Material and methods

Study design

It is community based cross sectional study.

Study place

The study was undertaken in the Bharatpur.

Study population

The study population comprised of people aged >18 years residing in Bharatpur. I

Inclusion criteria

Individual aged >18 yrs who are the permanent residents of in study area.

Exclusion criteria

Exclusion criteria were persons <18 years of age; pregnant woman; severely ill person.

Sample size

n=4pq/12

According to Gautam B. Sawase et al prevalence of hypertension was 30.5%

Sample size of 350 case required at 80% study power and alpha error 5%. It is round of 500 cases for present study expecting approx. 20% drops out.

MEDCALC statistical software was used for sample size.

A questionnaire containing all the socio demographic data (age, sex, family history, socio economic status, weight, height etc.) and factors affecting hypertension [Tobacco intake, alcohol consumption, salt intake, diabetes mellitus etc.] were included in the study. The data was collected by interviewing the participants. The clinical measurements which were obtained include weight, height and blood pressure. All these were calculated by using standard instruments and following standard guidelines. Socio economic status was defined as per Modified Prasad’s Classification.

Statistical analysis: The data was entered in Microsoft excel and analysed using Epi-info Chisquare’s test of significance was performed to find out the results. A two tailed P value <0.05 consider significant.

Results

Table 1: Distribution of cases as per grades of hypertension (JNC-VII)

Normal	Pre-hypertensive	Stage-I	Stage-II	Total
168(33.6%)	172(34.4%)	122(24.4%)	38(7.6%)	500(100.00%)

In our study, 33.6% were having normal BP. 34.3% were having pre hypertensive, 24.4% patients were having stageI and 7.6% stage II hypertensive.

Table 2: sex wise distribution

Sex	Normal	Pre-hypertensive	Hypertensive	Total
Male	106(34.98%)	109(35.97%)	88(29.04%)	303(60.4%)
Female	62(31.47%)	63(31.97%)	72(36.55%)	197(39.6%)
Total	168(33.6%)	172(34.4%)	160(32.00%)	500(100.00%)

Chi-square=3.03, df=2, P-value=0.223

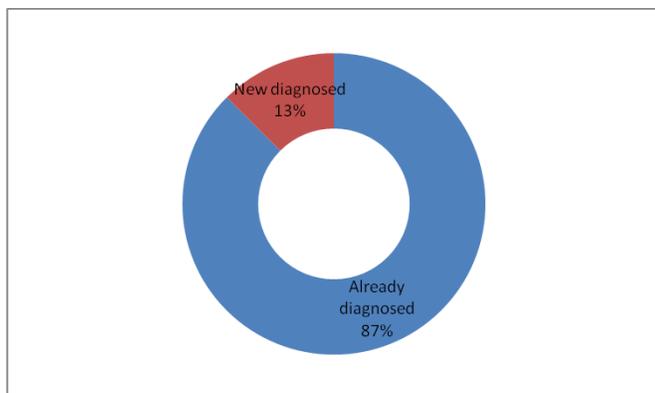
Females have shown higher prevalence of HTN (36.5%) compared to male (29.04%). There is Insignificant association between HTN and sex (p=0.223)

Table 3. Age wise distribution

Sex	Normal	Pre-hypertensive	Hypertensive	Total
<30	78(76.47%)	14(13.72%)	10(9.80%)	102(20.4%)
31-60	80(26.09%)	146(47.56%)	81(26.38%)	307(41.4%)
>60	10(10.99%)	12(13.18%)	59(64.84%)	91(18.2%)
Total	168(33.6%)	172(34.4%)	160(32.00%)	500(100.00%)

Chi-square=170.10, df=4, P-value=0.001

Higher prevalence of hypertension seen in age group >60 yrs. There is highly significant association between HTN and age (p<0.0001).



Discussion

The objective of this community based cross sectional study was to find the prevalence of hypertension.

In our study, 160 were found to have hypertension giving a prevalence of 32.00%. Among them 87.00% of hypertensive were already diagnosed to have HTN while 13% were newly detected hypertensive according to JNC VIII criteria. The overall prevalence of hypertension in the present study (32.00%) was lower compared to study conducted in Raichur by Chethana et al.^{2,5}

The prevalence was higher in comparison with the prevalence reported in study conducted by Bhardwaj et

al in Nagpur as well as studies done by Mohan in Chennai and By Kaur et al in South India.⁶⁻⁸

Female exhibit higher prevalence of hypertension than their male counterparts While studies done in Varanasi by Singh et al and by Singh in Rewa showed prevalence is more in males than females.⁹⁻¹⁰ Higher prevalence in females is found in study conducted by Reddy et al on Indian industrial population.¹¹ This may contribute to exposure of more female population while doing survey, as male members were out of house for working purpose during our visit hours.

Age related increase of hypertension is a common, but not a universal phenomenon. Prevalence of HTN found more in older age group it clearly follows the fact that as age advances, prevalence also increases because with increasing age, the stiffening of arterial walls occurs which ultimately causes increase in blood pressure.

A study done by Chethana et al and Gupta reported that highest prevalence (56%) is seen in 60-65years age group.^{2,12}

A study on growing trend of high prevalence of hypertension in developing country conducted by Das et al is not showing similar result, rather they found high prevalence in younger population which may be due to restricted age group in study i.e.18-50 yrs.⁵

Conclusion

It is concluded that, prevalence of hypertension found to be 32.0%. most of hypertensive were already diagnosed. As age advances, prevalence of HTN also increases. Prevalence was more in females compared to males.

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