

A study of prevalence of hypertension and associated complications at tertiary health care centre

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Abstract

Background: Hypertension is a major public health problem due to its high prevalence all around the globe **Aims and Objectives:** To Study prevalence of Hypertension and associated complications at tertiary health care centre. **Methodology:** This was a cross-sectional study carried out in the patients admitted or attended at OPD of the department of Medicine of a tertiary health care centre during the period of September 2018 to February 2019. During the one year period there were approximately 15789 patients attended OPD or Admitted to Medicine. During the one year period there were 226 patients were with hypertension. All details of the patients like Age, sex and any complication etc. was noted and entered to excel sheets. The data was analyzed by Parsons Correlations coefficient and analyzed by SPSS 19 version software. **Result :** Patients in the age group of 20-30 were 2.21%, followed by 30-40 were 3.98%, 40-50 were 11.06%, 50-60 were 17.26%, 60-70 were 19.91%, >70 were 45.58%. From above table and Graph 1 and Table 1a it is clear that as age increases the prevalence of hypertension increases and this associations was statistically significant as Pearson $r=0.92$, P value (two-tailed) was 0.01, $R^2=0.839$. The majority of the patients were male i.e. Male i.e. 66.37%, Female were 33.63%. The prevalence of complications were IHD in 11.50%, followed by Hypertensive nephropathy In 6.64%, Congestive Cardiac failure in 3.98%, Stroke in 3.54%, Hypertensive retinopathy in 3.10%. **Conclusion :** It can be concluded from our study that prevalence of hypertension was significantly higher in the old age hence all the persons above the age of 45 Yrs. should have routine measurement of Blood pressure for the prevention of complications and the most common complications observed were IHD, Hypertensive nephropathy , Congestive Cardiac failure ,Stroke, Hypertensive retinopathy etc.

Key words: Hypertension, Stroke, Hypertensive retinopathy, Hypertensive nephropathy

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INTRODUCTION

Hypertension is a major public health problem due to its high prevalence all around the globe.¹⁻⁴ Around 7.5 million deaths or 12.8% of the total of all annual deaths worldwide occur due to high blood pressure.⁵ It is

predicted to be increased to 1.56 billion adults with hypertension in 2025.⁶ Raised blood pressure is a major risk factor for chronic heart disease, stroke, and coronary heart disease. Elevated BP is positively correlated to the risk of stroke and coronary heart disease. Other than coronary heart disease and stroke, its complications include heart failure, peripheral vascular disease, renal impairment, retinal hemorrhage, and visual impairment.⁵ Hypertension (or HTN) or high blood pressure is defined as abnormally high arterial blood pressure. According to the Joint National Committee 7 (JNC7), normal blood pressure is a systolic BP < 120 mmHg and diastolic BP < 80 mmHg. Hypertension is defined as systolic BP level of ≥ 140 mmHg and/or diastolic BP level ≥ 90 mmHg. The grey area falling between 120–139 mmHg systolic BP and 80–89 mmHg diastolic BP is defined as “prehypertension”.^{7,8} Although prehypertension is not a

medical condition in itself, prehypertensive subjects are at more risk of developing HTN.¹ It is a silent killer as very rarely any symptom can be seen in its early stages until a severe medical crisis takes place like heart attack, stroke, or chronic kidney disease.⁸⁻¹⁰ As the prevalence of Hypertension increasing and its complications though the disease prevention is very difficult to prevent but the complications can be easily prevented by keeping close watch so we have studied the prevalence of hypertension and its complications at tertiary health care centre.

METHODOLOGY

This was a cross-sectional study carried out in the patients admitted or attended at OPD of the department of Medicine of a tertiary health care centre during the period of September 2018 to February 2019. During the one year period there were approximately 15789 patients attended OPD or Admitted to Medicine ward were screened for Hypertension by the WHO criteria for the classifications and measurement of the Blood pressure at more than two different times. The diagnosed hypertensive patients included into study by written and informed consent. During the one year period there were 226 patients were with hypertension. All details of the patients like Age, sex and any complication etc. was noted and entered to excel sheets. The data was analyzed by Pearson's Correlation coefficient and analyzed by SPSS 19 version software

RESULT

Table 1: Distribution of the patients as per the age

Age	No.	Percentage (%)
20-30	5	2.21
30-40	9	3.98
40-50	25	11.06
50-60	39	17.26
60-70	45	19.91
>70	103	45.58
Total	226	100.00

Figure 1: Showing the hypertensive patients with respect to age
Table 1a: Distribution as per the statistics

Pearson r	0.92
95% confidence interval	0.40 to 0.99
P value (two-tailed)	0.01
P value summary	*
Is the correlation significant? (alpha=0.05)	Yes
R squared	0.839

The in the age group of 20-30 were 2.21%, followed by 30-40 were 3.98%, 40-50 were 11.06%, 50-60 were 17.26%, 60-70 were 19.91%, >70 were 45.58%. From above table and Graph 1 and Table 1a it is clear that as age increases the prevalence of hypertension increases and this associations was statistically significant as Pearson r=0.92, P value (two-tailed) was 0.01, R²=0.839.

Table 2: Distribution of the patients as per the sex

Sex	No.	Percentage (%)
Male	150	66.37
Female	76	33.63
Total	226	100.00

The majority of the patients were male i.e. Male i.e. 66.37%, Female were 33.63%.

Table 3: Distribution of the patients as per the prevalence of complications

Complications	No.	Percentage (%)
IHD	26	11.50
Hypertensive nephropathy	15	6.64
Congestive Cardiac failure	9	3.98
Stroke	8	3.54
Hypertensive retinopathy	7	3.10

The prevalence of complications were IHD in 11.50%, followed by Hypertensive nephropathy. In 6.64%, Congestive Cardiac failure in 3.98%, Stroke in 3.54%, Hypertensive retinopathy in 3.10%.

DISCUSSION

In our study out of the out of the patients at OPD or IPD i.e. approximately 15000 patients 226 were having hypertension hence the prevalence was 1.50%. This was similar to Dubey VD¹⁸ carried out one of the earliest study in India (1954), documented 4% prevalence of hypertension (criteria:>160/95) amongst industrial workers of Kanpur. In 1984, Wasir HS *et al*¹⁰¹ reported 3% prevalence of hypertension (criteria :> 160/95) in Delhi. During 1984-87 Gopinath and Chadha *et al*^{11,22} reported the prevalence of hypertension in Delhi (criteria: >=160/90) to be 11% among males and 12% among females in the urban areas and 4% and 3% respectively in rural areas. Another two studies carried out in rural areas of Haryana⁵⁴ (1994-95) demonstrated 4.5% prevalence of hypertension (JNC V criteria) while urban areas of Delhi had a higher prevalence of 45% during 1996-972. In the ICMR study⁴³ in 1994 involving 5537 individuals (3050 urban residents and 2487 rural residents) demonstrated 25% and 29% prevalence of hypertension (Criteria >=140/90 mm of Hg) among males and females respectively in urban Delhi and 13% and 10% in rural Haryana. Patients in the age group of 20-30 were 2.21%, followed by 30-40 were 3.98%, 40-50 were 11.06%, 50-60 were 17.26%, 60-70 were 19.91%, >70 were 45.58%. From above table and Graph 1 and Table 1a it is clear that as age increases the prevalence of hypertension increases and this associations was statistically significant as Pearson r=0.92, P value (two-tailed) was 0.01, R²=0.839. The majority of the patients were male i.e. Male i.e. 66.37%, Female were 33.63%. The prevalence of complications were IHD in 11.50%, followed by Hypertensive nephropathy In 6.64%, Congestive Cardiac

failure in 3.98%, Stroke in 3.54%, Hypertensive retinopathy in 3.10%. This was similar to Ike SO¹⁵ they found of the 7399 patients admitted during the period, 1360 (18.4%) had hypertension related diseases. These were 798 (58.7%) males and 562 (41.3%) females, giving a male: female ratio of 1.4:1. There was a progressive increase in the age-specific prevalence of hypertension cases with advancing age, but presenting with only 6 (0.4%) patients in the over 90 years age group. Hypertensive congestive heart failure accounted for 26.5% of the cases and 46.1% of the hypertensive complications. Myocardial infarction was documented in 7 patients. Hypertension with its complications, contributed more than two thirds (69.6%) of the cardiovascular system admissions.

CONCLUSION

It can be concluded from our study that prevalence of hypertension was significantly higher in the old age hence all the persons above the age of 45 Yrs. should have routine measurement of Blood pressure for the prevention of complications and the most common complications observed were IHD, Hypertensive nephropathy, Congestive Cardiac failure, Stroke, Hypertensive retinopathy etc.

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