

## A Cross-sectional study of awareness and treatment seeking behaviour of hypertensive people of rural and urban area of Agra District

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### Abstract

This study was a part of broad cross-sectional study conducted in Agra District. Descriptive study was used to assess the awareness, treatment seeking behaviour and control of hypertension among study population. The results reveal that overall prevalence of hypertension was 36.42% only 35.66% of the total hypertensive persons were aware of their hypertension status, and only 50.76% of them were on medication. Of those treated, 89.06% had controlled hypertension. The study concludes that undiagnosed hypertension is significant. Awareness, treatment and control of hypertension are not up to the mark. As we all know hypertension is fatal in long term so its complete awareness and control is essential for the benefit of not only for a individual but for whole society.

### Introduction

Hypertension is an interesting disease entity of its own. It remains silent, being generally asymptomatic during its clinical course. As it is hidden beneath an outwardly asymptomatic appearance, the disease does immense harm to the body in the form of "Target Organs damage" hence, the WHO has named it the "Silent Killer".<sup>(1)</sup> The prevalence of hypertension is showing an increasing trend. As most of the urban areas have access to health facilities, here the hidden mass of hypertension in the community can be detected and treated. However, the situation is reversed in rural areas. A majority of the rural population in India have inadequate access to healthcare. Over half of the outpatient consultations are with indigenous and private practitioners, where regular screening for hypertension is not practiced. Clinic-based (Opportunistic) screening of hypertension will not screen and detect a large proportion of adult hypertensives. In turn they will not seek healthcare from the formal health sector, until seriously ill. Community-based screening can improve the detection and treatment of Hypertension. The age related rise in systolic blood pressure is primarily responsible for an increase in both incidence and prevalence of hypertension with increasing age.<sup>(2)</sup> As the hypertension is an iceberg disease, awareness status of hypertension in India is poor. With this background, present research study is designed to find out the treatment seeking behaviour and awareness of hypertension in middle and old age population with comparison in rural and urban area of Agra District.

### Aim & Objectives

To study about the awareness level regarding hypertension and treatment seeking behaviour of study population.

1. To study about the Prevalence and treatment seeking behaviour of rural and urban population against hypertension.
2. To study about awareness regarding hypertension among rural and urban areas of Agra district.

### Material and Methods

This investigation is part of a cross-sectional prevalence study and the sampling strategy has been adopted to suit that objective. Sample size was estimated according to a standard method and the details were presented else where.<sup>(3)</sup> A total of 544 persons were sampled. The institutional ethics committee approved the study protocol. The purpose of the study was explained, and the consent was taken from all the participants before data collection. Desired information about history of treatment if any and knowledge about hypertension were collected on pretested predesigned questionnaire by interview. Blood pressure of all the individual participants in the study was taken using OMRAN automated blood pressure recording machine. Blood pressure of all the individuals was recorded in sitting position after the subject had rested for at least 5 minutes. Two blood pressure readings over a period of at least 3 minutes were taken on left arm in sitting position by using standard Omran automated blood pressure recording machine (IDSP operational manual for district surveillance unit by MOHFW). The pressure at which the first korotkoff sound heard was taken to indicate systolic blood pressure and the point when the

korotkoff sound disappears, indicated diastolic blood pressure.

- (i) Hypertension defined as either systolic blood pressure (SBP)  $\geq 140$  mmHg, or diastolic blood pressure (DBP)  $\geq 90$  mmHg or participant on treatment with controlled blood pressure ( $< 140/90$  mmHg).
- (ii) Known hypertensive's persons having blood pressure  $< 140/90$  mm Hg put on treatment by a qualified MBBS/BAMS doctor.
- (iii) All persons diagnosed as hypertensive's and having controlled blood pressure by any others methods.

- (iv) Treatment of hypertension was defined as current use of a prescription of medication for lowering elevated blood pressure by any method.

The information collected from target age groups in study area was computerized in microsoft excel 2007 software in a preformed format, on a regular basis. Data from microsoft excel 2007 was transferred on the predesigned classified tables which were formed according to the aims and objectives of the study. Data analysis was done to draw the valid inferences for which chi-square (X<sup>2</sup>) statistical tests were applied according to the need.

**Results**

**Table 1: Prevalence of Hypertension in study population**

Gender	Urban			Rural			Total			Chi square
	N.	Hypertension		N.	Test Hypertension		N.	Hypertension		
		Yes	No		Yes	No		Yes	No	
Male	132	54 (40.90)	78 (59.07)	142	46 (32.39)	96 (67.60)	274	100 (36.49)	174 (63.50)	X <sup>2</sup> =2.1 4, df=1 P>0.05
Female	126	53 (42.06)	73 (57.93)	144	44 (30.55)	100 (69.45)	270	97 (35.92)	173 (64.07)	X <sup>2</sup> =3.8 7 df=1, P<0.05
Total	258	107 (41.96)	151 (58.53)	286	90 (31.46)	196 (68.53)	544	197 (36.42)	347 (63.78)	X <sup>2</sup> =5.8 8 df=1 P<0.05
X <sup>2</sup> test	X <sup>2</sup> =0.04,df=1,P>0.05			X <sup>2</sup> =0.11,df=1,P>0.05			X <sup>2</sup> =0.02, df=1,P>0.05,			P<0.05

In the study population the overall prevalence of hypertension was found to be 36.42%, which was more in urban area (41.96%) as compared to rural area (31.46%). This difference is being statistically significant (p<0.05).

Males (36.49%) and females (35.92%) had almost equal prevalence of hypertension but the prevalence of

hypertension was found to be more in urban males and females (40.90% & 42.06%) as compared to rural males and females (32.39% & 30.55%). This difference was statistically significant (p<0.05) among urban and rural females but insignificant among urban and rural males. Gender wise there was no significant difference in prevalence of hypertension in both the areas.

**Table 2: Treatment seeking behaviour in hypertensive population**

Variables	Urban		Rural		Total		X <sup>2</sup> test (U Vs R)
	HT(N=107)		HT(N=90)		HT(N=197)		
	N.	%	N.	%	N.	%	
Taking treatment							X <sup>2</sup> =75.22 df=1, P<0.001
Yes	83	(77.57)	14	(15.56)	97	(50.76)	
No	24	(22.43)	76	(84.44)	100	(49.24)	
Total	107		90		197		
(a) Regularity							X <sup>2</sup> =1.06 df=1, P>0.05
Regular	64	(77.11)	9	(64.28)	73	(75.26)	
Irregular	19	(22.89)	5	(35.71)	24	(24.74)	
(b) Completeness							X <sup>2</sup> =1.30 df=1, P>0.05
Complete	73		9		82		
Incomplete	10	(12.05)	5	(35.71)	15	(14.43)	
(c) Source							
Gov. hospital/centre	7	(8.43)	10	(71.42)	17	(17.52)	

Private hospital/clinic	76	(91.57)	4	(28.57)	80	(82.47)	X <sup>2</sup> =32.89 df=1, P<0.001
(a) Specialist. doctor	62	(81.58)	0	0	62	(77.5)	
(b) Gen. physician	8	(10.53)	4	(100.0)	12	(15.0)	
(c) Indigenous system	6	(7.89)	0	0	6	(7.50)	
Total	83	(100.0)	14	(100.0)	97	(100.0)	
Reason for not taking treatment							X <sup>2</sup> =16.83 df=2, P<0.001
Unawareness	14	(58.33)	62	(81.57)	76	(76.00)	
economic	0	0	8	(10.53)	8	(8.00)	
Disease not serious	10	(41.67)	6	(7.89)	16	(16.00)	
Total	24		76		100		

Table 2 on treatment seeking behaviour of the persons found to be hypertensive (197) shows that about fifty percent only were taking treatment (50.76%). In urban area majority (77.57%) were taking treatment whereas in rural area mostly (84.44%) were not taking it with highly significant difference (P<0.001).

Out of those who were taking treatment (97) mostly were taking treatment on a regular basis (75.26%). The regular treatment takers were 77.11% in urban area as compared to 64.28% in rural area. Most of the subjects were taking complete treatment (85.56%) with higher rate in urban area than rural area (89.15 & 64.29%). Majority subjects (91.57%) in urban area were taking treatment from private hospital/clinic

as compared to rural area, where most of the subjects (71.42%) were taking treatment from government hospital/clinic. Overall 82.47% opted for private health facility, out of which majority consulted specialist doctor (77.5%) and only 7.50% opted for indigenous system.

Regarding the reasons for not taking treatment in majority of the subjects the reason was that they were unaware about their disease (76%) and 16% subjects thought that the disease was not serious. Unawareness was the main reason in both study areas whereas the second reason in urban area was not taking disease seriously (46.67%) but in rural area it was economic reason (10.53%). This difference also was highly significant (p<0.001).

**Table 3: Awareness level about Hypertension in study population**

Variables	Urban			Rural			Total		
	N.	aware	%	N.	aware	%	N.	aware	%
Sex									
Male	132	75	(56.82)	142	45	(31.69)	274	120	(43.79)
Female	126	54	(42.86)	144	20	(13.89)	270	74	(27.41)
Chi square test	X <sup>2</sup> =0.66,df=1,P>0.05			X <sup>2</sup> =4.76,df=1,P<0.05			X <sup>2</sup> =4.42,df=1,P<0.05		

Awareness level about hypertension was found to be significantly low in the rural area (22.72%) as compared to the urban area (50.0%) whereas overall only 35.66% persons were aware about it. Females were less aware (27.41%) as compared to males (43.79%) and this difference was statistically significant (p<0.05) overall as well as in rural area but in urban area there was no significant difference.

**Discussion**

The overall prevalence of hypertension in study population (aged 45 years and above) was found to be 36.42%. It was 36.39% in males and 35.92% in females. The prevalence of hypertension was 41.96% in urban area and 31.46% in rural area. Hypertension was found to be increasing with increase in age of subjects. No significant difference was found among two genders and in various religions. These findings were supported by study in Himachal Pradesh<sup>(4)</sup> which reported that the

prevalence of HTN in the entire population was 35.89%. As per current study, 50.76% hypertensives were taking treatment, among them 75.26% were taking regular treatment. More subjects in urban area were taking regular treatment as compared to rural area (77.57% Vs 64.28%). 85.56% were taking complete treatment which was more in urban area than rural area (87.95% Vs 64.29%). Mostly 82.47% were taking treatment from private hospital/clinic, more in urban area (91.57%) as compared to rural area (28.57%). Only 17.52% were taking treatment from government hospital being mostly from rural area (71.42%). Out of 100 subjects who were not taking treatment, the reason was found to be that 76% were unaware about their problem of hypertension while 16% subjects thought that the disease was not serious and 8% were not taking treatment as they were facing economic problem. Study from Kerala<sup>(5)</sup> reported that 39% were aware of the condition while 29% were treated with blood pressure-

lowering medications. Similarly a study in Andhra Pradesh<sup>(6)</sup> reported that out of 86 hypertensives, 72 (83.7%) were aware of their hypertension. In a study from devanagaree<sup>(7)</sup> it was seen that 33.8% of population were aware of their hypertensive status. Out of hypertensives 32.1% were on treatment, and 12.5% adequately controlled their BP. Similar finding was observed in study by Mohan V et al<sup>(8)</sup> reporting that among the total hypertensive subjects, only 32.8% were aware of their blood pressure and 70.8% were under treatment for hypertension. Treatment taking was more common among men than among women. A Study<sup>(9)</sup> reported that 43.0% of the total hypertensives were found to be aware of hypertension. Study in Maldives<sup>(10)</sup> found that 62% of hypertensive subjects were taking medication. Study from Jamnagar<sup>(11)</sup> reported that 54 (83.1%) were aware of their hypertension; all of those who were aware were undergoing treatment. In a study in Delhi<sup>(12)</sup> reported that 53.3% were aware of their diagnosis & 42.8% were taking treatment. Study from Himachal Pradesh<sup>(4)</sup> reported that only 21.98% hypertensive patients were aware of their condition and 47% of these on treatment. High level of awareness in present study may be due to easily available and better status of education and health facility. In present study it was found that only 35.66% subjects were aware about the disease of hypertension, which was more in males than females (43.79% Vs 27.41%) and more in urban area than rural area (50.0% Vs 22.72%). Male awareness was more in both urban and rural area. A study from Kerala<sup>(2)</sup> reported that awareness level was very low in community.

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