

Prevalence Of Hypertension And It's Associated Socio-Demographic Factors In Homemakers Of Chargawan Block Of Gorakhpur

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ABSTRACT

Background: Hypertension is a chronic condition of concern due its role in the causation of coronary heart disease, stroke and other vascular complications¹. Every 2 seconds someone aged 30–70 years dies prematurely from non-communicable diseases. In India, 63% of deaths were due to NCDs, out of which 45% were women². Hypertension among homemaker women has become an important public health concern. Lack of awareness to NCDs make homemakers neglected, forgotten and devalued. They do not get screened for NCDs and end up with dreadful complications.

Aims & Objectives: To study the prevalence of Hypertension in homemakers of age 30-50 years in rural area of Gorakhpur in relation to their socio-demographic profile.

Material & Methods: A cross-sectional study was carried out in 275 homemakers of age 30-50 years living in Chargawan block of district Gorakhpur in India selected through multi-stage random sampling. Study was carried out for duration of one year (Aug 2021- July 2022) JNC 7 classification was used for classification of hypertension. Blood pressure was measured using digital BP machine. Socio demographic data were assessed by interviewing subjects with the help of pre-designed and pretested questionnaire.

Results: The prevalence of hypertension was seen to be 22.18% and pre-hypertension as 23.27%. Proportion of hypertension was highest (39.41%) in the age-group of 44-50 years. It was seen that proportion of hypertension in homemakers who live in joint family is significantly higher that is 28.2% followed by those homemakers who live in nuclear family which was 14.3%. Proportion of hypertension among homemakers who were either illiterate or had received education below high school was significantly higher i.e., 25.1% followed by 7.5% among those who had their educational qualification up to high school and above. Proportion of hypertension was found to be significantly higher (58.49%) in lower socioeconomic class.

Keywords: Hypertension, pre-hypertension, non-communicable diseases, cardiovascular diseases and stroke

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I. INTRODUCTION

Hypertension is termed as silent killer as very rarely any symptoms can be seen in its early stage. According to WHO 1 in 4 men and 1 in 5 women have hypertension with a global estimate of 1.13 billion suffering from it³. An estimated 1.28 billion adults aged 30-79 years worldwide have hypertension, most (two-thirds) living in low- and middle-income countries⁴.

Prevalence of hypertension in India is 29.8%. According to ICMR it is responsible for 29% of all stroke and 24% of all heart attacks in India.⁵ NFHS-5 data shows that 21 percent of women age 15 and over have hypertension, including 12 percent with mildly elevated blood pressure, 4 percent with moderately elevated blood pressure, and 2 percent with severely elevated blood pressure. Forty-four percent of women have blood pressure within the normal range. Almost two-fifths (39%) of women are pre-hypertensive. One percent of women are currently taking antihypertensive medicine and have their blood pressure in the normal range.⁶ Further focussing our attention on Uttar Pradesh, according to NFHS-5, elevated blood pressure (Systolic ≥ 140 mm of Hg and/or Diastolic ≥ 90 mm of Hg) or taking medicine to control blood pressure in urban population was found to be 20.9% and in rural area as 17.6%.⁷ It is estimated that at least one in four adults in India has hypertension⁸ but, only about 12% of them have their blood pressure under control. India has set a target of 25% relative reduction in the prevalence of hypertension by 2025⁹.

Despite increasing prevalence, the proportion of hypertension, its awareness, treatment, and control remains low. Due to various social customs, women's opportunities for physical activities are reduced and thus

they are more vulnerable to NCDs. Adult female mortality can lead to higher mortality among small children, children withdrawn from school, increased work burden on children. Women's health is, therefore, critically important for the health of future generations. Hypertension among homemaker women has become an important public health concern.

II. AIMS & OBJECTIVES

To study the prevalence of Hypertension in homemakers of age 30-50 years in rural area of Gorakhpur in relation to their socio-demographic profile.

III. MATERIAL & METHODS

Definitions

Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7) classification was used for hypertension. Hypertension is defined as systolic BP level of ≥ 140 mmHg and/or diastolic BP level of ≥ 90 mmHg or being previously diagnosed as hypertensive by any health professional. The area falling between 120-139mmHg systolic BP and 80-90mmHg diastolic BP is defined as Prehypertension.¹⁰

Inclusion Criteria: Homemakers of age 30-50 years residing in Chargawan block in Gorakhpur District.

Exclusion Criteria

1. Not willing to participate in study and/or not giving consent
2. Person with unstable mental status
3. Pregnant females.

This cross-sectional study was conducted in homemakers of 30-50 years in Chargawan block, Gorakhpur. Sample size was estimated by taking Prevalence of hypertension in females as 18.69 % according to NFHS-4.¹¹ Sample size (n) is calculated by taking allowable error of 5% at 95% confidence by using Cochran's formula. A minimum sample size of 234 is obtained. Considering the non-response of data 20%, collection was done for 281 individuals.

Chargawan Block consists of one block PHC and four additional PHCs. Out of these 5 PHCs, 2 PHCs i.e., Maniram and Chargawan were selected randomly. In the next step one subcenter from Maniram PHC and one sub-center from Chargawan PHC were selected randomly. Further from these two subcenters, 2 villages from each subcenter i.e., a total of 4 villages were selected randomly. From the 4 villages list of all homemakers 30 years to 50 years of age with their name and address excluding pregnant females was prepared by house-to-house visit. The list of study population (containing name of participants and village name) from villages was compiled in a single list. A total of 281 participants were selected randomly from the list. (85 participants from village 1, Narayanpur, 78 participants from village 2, Mirzapur, 62 participants from village 3, Maheshara, 56 participants from village 4, Mohripur). Before collection of data from the study subject, written consent was taken in Hindi after explaining the procedure and purpose of study. Complete confidentiality and anonymity of the respondents were maintained. Each participant of the sample population was directly interviewed with help of a pre- tested and pre- designed questionnaire. A total of 275 participants were interviewed, 6 participants were found to be non- respondent in our study due to various reason like refusal to give interview, non-availability at time of interview. Data obtained after the interviews of the participants were entered in to the Microsoft office excel sheet. The master chart was prepared. Data was analysed and appropriate statistical tests were applied. An estimation of Prevalence of Hypertension in homemakers of age 30-50 years and its correlates was done in Chargawan block of district Gorakhpur. All the necessary advices and lifestyle modification education was given to hypertensive homemakers and awareness was spread among all regarding dreadful complication of hypertension.

IV. RESULTS

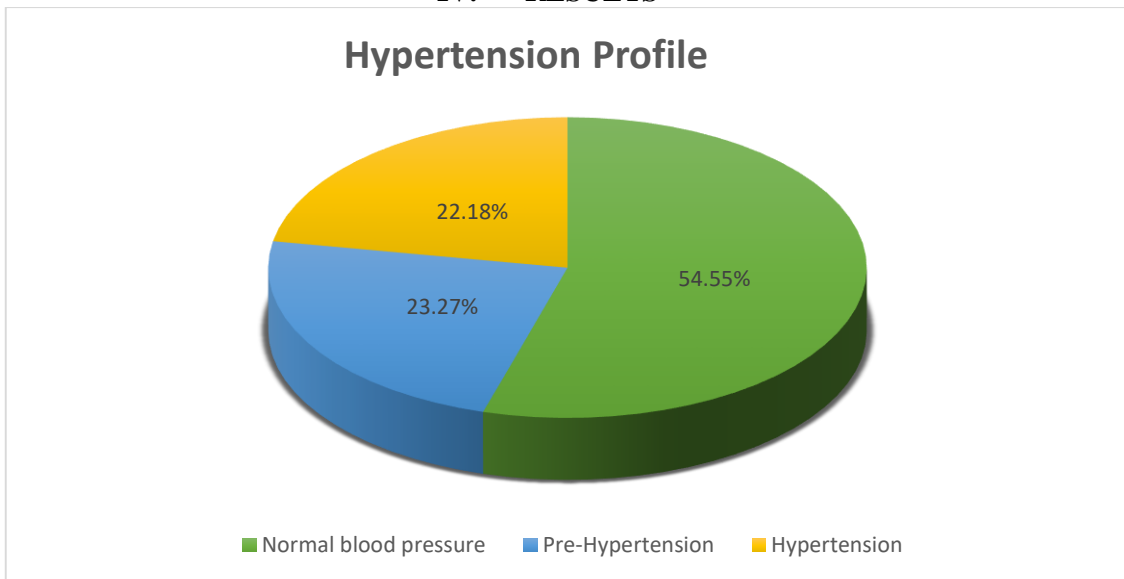


Figure:1 This pie-chart shows proportion of pre-hypertension and hypertension in homemakers.

Flow diagram showing awareness, treatment, and adequacy of control of hypertension among homemakers.

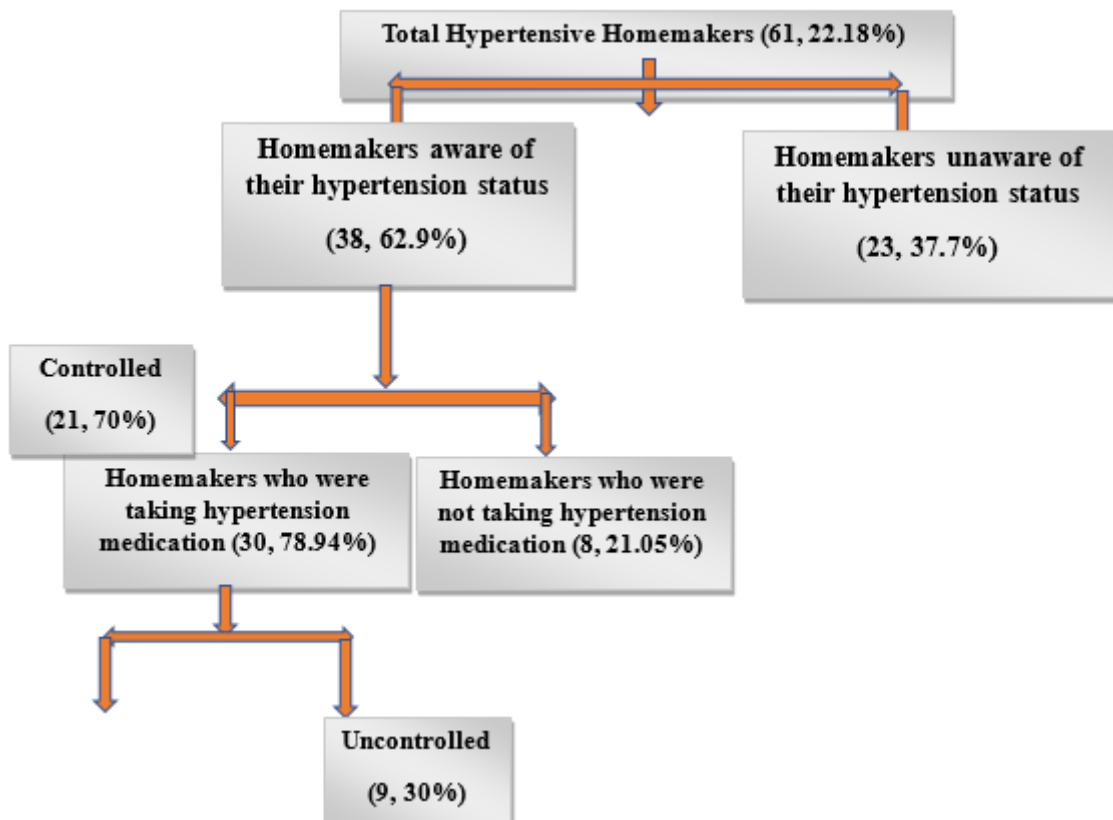


Table No. 1: Prevalence of Hypertension among homemakers according to their age group

Age Group in completed years	Normal	Pre-hypertension	Hypertension	Total	<i>p-value (by chi-square test calculated between normal and hypertension category)</i>
	N (%)	N (%)	N (%)	N=275	
30-36	63(65.62)	21(21.9)	12(12.5)	96(100.0)	<0.00001
37-43	51(72.9)	13(18.6)	6(8.6)	70(100.0)	
44-50	36(33.0)	20(27.5)	43(39.4)	109(100.0)	
Total	150(54.55)	64(23.27)	61(22.18)	275(100.0)	

Table 1, Shows Prevalence of Hypertension among homemakers according to their age group. It was seen that proportion of hypertension was highest (39.41%) in the age-group of 44-50 years, followed by 12.5% in the 30-36 age group and 8.6% among the homemakers of 37–43-year age group. Similar type of findings was observed regarding proportion of pre-hypertension which was highest (27.5%) in age group 44-50 years followed by 21.9% in age group 30-36 years and 18.6% among homemakers of age group 37 to 43 years and this association was found to be statistically significant.

Table No. 2: Prevalence of Hypertension among homemakers according to their Religion

Religion	Normal	Pre-Hypertension	Hypertension	Total	<i>p-value by chi-square calculated between normal and hypertension category)</i>
	N (%)	N (%)	N (%)	N=275	
Hindu	137(55.0)	58(23.3)	54(21.7)	249(100.0)	0.527
Muslim	13(50)	6(23.1)	7(26.9)	26(100.0)	
Total	150(54.55)	64(23.27)	61(22.18)	275(100.0)	

Table 2, shows Prevalence of Hypertension Among homemakers according to their Religion. Proportion of hypertension was found to be higher that is 26.9% in Muslims whereas proportion of hypertension in Hindus was seen as 21.7%. Proportion of Pre-Hypertension was found to be almost equal in both Hindus and in Muslims i.e., 23.3%. The association was not found to be statistically significant.

Table No. 3: Prevalence of Hypertension among homemakers according to their Category

Category	Normal	Pre-Hypertension	Hypertension	Total	<i>p-value (by chi-square calculated between normal and hypertension category)</i>
	N (%)	N (%)	N (%)	N=275	
General	29(52.7)	17(30.9)	9(16.4)	55(100.0)	.725
OBC	99(58.9)	27(16.1)	42(25)	168(100.0)	
SC/ST	22(42.3)	20(38.5)	10(19.2)	52(100.0)	
Total	150(54.55)	64(23.27)	61(22.18)	275(100.0)	

Table 3, shows prevalence of Hypertension among homemakers according to their category. Proportion of hypertension in OBC category is higher i.e., 25% followed by 19.2% in SC/ST and 16.4% in general category whereas proportion of Pre-hypertension is 38.5% in SC/ST followed by 30.9% in general and 16.1% in OBC and the association was not found to be statistically significant.

Table No. 4: Prevalence of Hypertension among homemakers according to their Type of family

Type of Family	Normal	Pre-Hypertension	Hypertension	Total	<i>p-value (by chi-square calculated between normal and hypertension category)</i>
	N (%)	N (%)	N (%)	N=275	
Nuclear	77(64.7)	25(21.0)	17(14.3)	119(100.0)	.0018
Joint	73(46.8)	39(25.0)	44(28.2)	156(100.0)	
Total	150(54.55)	64(23.27)	61(22.18)	275(100.0)	

Table 4, shows Prevalence of Hypertension among homemakers according to their type of family. It is seen that proportion of hypertension in homemakers who live in joint family is higher that is 28.2% followed by those homemakers who live in nuclear family which was 14.3%. Similarly, Proportion of Pre-hypertension was

higher in homemakers living in joint family that is 25% whereas proportion of pre-hypertension in homemakers living in nuclear family was 21% and association was found to be statistically significant.

Table No. 5: Prevalence of Hypertension among homemakers according to their Marital Status

Marital status	Normal	Pre-Hypertension	Hypertension	Total	<i>p-value (by applying chi-square calculated between normal and hypertension category)</i>
	N (%)	N (%)	N (%)	N=275	
Married	126 (54.8)	52 (22.6)	52 (22.6)	230 (100)	.821
Widow/Divorced	24 (53.3)	12 (26.7)	9(20.0)	45 (100)	
Total	150 (54.55)	64(23.27)	61 (22.18)	275 (100)	

Table 5, shows Prevalence of Hypertension among homemakers according to their marital status. It was seen in the table that proportion of hypertension in married homemakers was higher i.e., 22.6% followed by 20% in widow/divorced homemaker. Proportion of Pre-hypertension in widow/divorced homemakers was 26.7% in comparison to married homemakers in which it was 22.6% and this association was not found to be statistically significant.

Table No. 6: Prevalence of Hypertension among homemakers according to their Education

Education Status	Normal	Pre-hypertension	Hypertension	Total	<i>p-value (by chi square test calculated between normal and hypertension category)</i>
	N (%)	N (%)	N (%)	N=275	
High School and above	15(37.5)	22(55)	3(7.5)	40(100.0)	< 0.2205
Below High School (including illiterate)	135(57.4)	41(17.44)	58(25.1)	235(100.0)	
Total	150(54.55)	64(23.27)	61(22.18)	275(100.0)	

Table 6, shows Prevalence of Hypertension among homemakers according to their Education. Proportion of hypertension among homemakers who were either illiterate received education below high school was higher i.e., 25.1% followed by 7.5% among those who had their educational qualification up to high school and above whereas proportion of Pre-hypertension among homemakers having education qualification up to high school and above was higher i.e.,55% followed by 17.44% in homemakers who were either illiterate or received education below high school and the association was not found to be statistically significant.

Table No. 7: Prevalence of Hypertension among homemakers according to their Socio-Economic Status

Socio-economic Class	Normal	Pre-Hypertension	Hypertension	Total	<i>p-value by chi-square calculated between normal and hypertension category)</i>
	N (%)	N (%)	N (%)	N=275	
Upper class	25(71.4)	5(14.2)	5(14.4)	35(100.0)	.00001
Middle class	29(55.76)	11(21.15)	12(23.09)	52(100.0)	
Lower Middle class	84(62.22)	38(28.148)	13(9.64)	135(100.0)	
Lower class	12(22.71)	10(18.8)	31(58.49)	53(100.0)	
Total	150(54.55)	64(23.27)	61(22.18)	275(100.0)	

Table 7, Shows Prevalence of Hypertension Among homemakers according to their Socio-economic status. Proportion of hypertension was found to be higher i.e., 58.49% in lower socioeconomic class, followed by 23.09% in middle class, 14.4%% in upper class and 9.64% in lower middle class. Proportion of pre-hypertension was found to be higher i.e.,28.14% in lower middle class followed by 18.8% in lower class , 21.5% in middle class and 14.2 % in upper class. The association was found to be statistically significant.

V. DISCUSSION

The present study, prevalence of hypertension and its correlates in homemakers was carried out in Chargawan block of Gorakhpur. Association of hypertension with various socio-demographic factors such as age of homemakers, their marital status, education, socio-economic status, religion, type of family was studied.

In the present cross-sectional community-based study prevalence of hypertension came out to be 22.18% and pre-hypertension as 23.27%. 54.55% of participants had blood pressure within normal range. Study done by **Vijna, Mishra CP et al.** in rural areas of Varanasi have shown the prevalence of hypertension was 31.5% which came out to be higher than the present study.¹² **A Patel et al.** in their study conducted in Jhansi have shown that Prevalence of prehypertension and hypertension was 24.2% and 19.3% which is similar to our study.¹³

In our study mean age of the homemakers enrolled in the study was found to be 40.7 ± 7 years. It was seen that proportion of hypertension was highest (39.6%) in the age-group of 44-50, followed by 12.5% in the 30-36 age group and 8.6% among the homemakers of 37-43-year age group. Similar type of findings was observed regarding proportion of pre-hypertension which was highest (27.5%) in age group 44-50 years followed by 21.9% in age group 30-36 years and 18.6% among homemakers of age group 37 to 43 years. Association was found to be statistically significant.

Vijna, Mishra CP et al. in their study Prevalence and predictors of hypertension: Evidence from a study of rural India have depicted a significant association of BP with age which is similar to present study.¹²

As seen in the present study proportion of hypertension among homemakers who were either illiterate or had received education below high school was higher i.e., 25.1% followed by 7.5% among those who had their educational qualification up to high school and above.

Similar to the present study, in the study done by **Amrit Vrik et al.** showed hypertension to be inversely proportionate to level education, possibly due to better knowledge of disease and its risk factors and better healthcare seeking behaviour.¹⁴

In the present study proportion of hypertension was found more in lower socio economic class. In contrast to our study, **Shikha Singh et al.** in their study have concluded that better socioeconomic status imparts people with more purchasing power of junk food and less physical activity thus contributing to hypertension.¹⁵ In the present study it is seen that proportion of hypertension in married homemakers is higher i.e., 22.6% followed by 20% in widow/divorced homemaker.

Study done by **S Singh et al.** also supports the finding that hypertension is found to be more prevalent in married individuals.³¹

VI. CONCLUSION AND RECOMMENDATION

In the present study one in five homemakers of age 30-50 years were found hypertensive. The prevalence of hypertension in homemakers was significantly associated with higher age, joint family, low socio economic status and low education status. The study recommends that they must be motivated for their blood pressure check- up at least once in 6 months. These homemakers should also be made aware about the risk factors of hypertension and should be encouraged to adopt healthy lifestyle.

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