



PREVALENCE OF PRE-HYPERTENSION AND HYPERTENSION IN A TERTIARY BASED HOSPITAL IN JHAJJAR, HARYANA

Community Medicine

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ABSTRACT

High prevalence of CHDs in India warrants an urgent action in terms of expanding public education, control of primordial and primary risk factors by population based and risk factor interventions as part of effective preventive community strategies with more emphasis to prevent the development of pre-hypertension. It has been estimated by World Bank that there would be doubling of deaths due to coronary heart disease in India from 1985 to 2015. The burden of Hypertension in Haryana as per NFHS-4 is 16.2% in males between 15-54 years of age and 9.2% in females aged between 15 to 49 years. According to Joint National Committee-7 (JNC-7) guidelines, prehypertension is defined as having either a systolic blood pressure of 120 to 130 mmHg and/or diastolic blood pressure of 80 to 89 mmHg. (Ferguson TS et al, 2008). In this study, which was a tertiary based hospital study the total no of patients having pre-hypertensives were identified were 20 out of 52 patients screened which is 38.4% of the total patients seeking care in this hospital based in rural area of Jhajjar, in Haryana. This is important and constitutes a sizable portion of the total patients screened. The total no of hypertensive patients in Stage I were 8 out of 52 (15.38%) and in Stage II were 3 out of 52 patients. (5.7%) The neglect of screening of pre-hypertensive patients identifies a gap area in the overall management of hypertension in India, as most cases are treated in a tertiary based hospital settings, much neglecting the advantage of modifying the risk factors for hypertension which could be identified at an early stage in the community. This could pave way to reduce the burden of CVDs in India not only at a grass root level but in urban areas as well

KEYWORDS

Coronary Heart Diseases (CVDs), Pre-Hypertension screening, Risk Factor Modification of hypertension through life style changes

Hypertension in India

High prevalence of CHD in India warrants an urgent action in terms of expanding public education, control of primordial and primary risk factors by population based and risk factor interventions as part of effective preventive community strategies. Cardiovascular Disease is now a leading cause of deaths globally and is on the rise and has become a neglected pandemic in the world. Incidence of coronary heart disease in India is advancing rapidly. In last two decades in India population surveys has reported a 9 fold increase of coronary heart disease in urban areas. It has been estimated by World Bank that there will be doubling of deaths due to coronary heart disease in India from 1985 to 2015. It is also observed that CVDs in India affects people at rather young age with pre-Hypertension and is modifiable risk factors are not addressed to with leading to disease this constantly increasing burden of CVDs in India. (Achari V, et al 2004)

Hypertension is a major public health challenge and is one of the major risk factors for cardiovascular mortality, which accounts for 20-50 per cent of all deaths. The burden of Hypertension in Haryana as per NFHS-4 was 16.2% in males between 15-54 years of age and 9.2% in females aged between 15 to 49 years. As per the WHO 1.13 billion people in the world have hypertension and 17.9 million people die each year from CVDs, which is an estimated 31% of all deaths worldwide. (Hypertension, WHO: 2020).

Hypertension prevalence in young men (15-54y) and women (15-49y) in India in National Family Health Survey-4.

State (alphabetic)	Sample size	Hypertension (known or BP $\geq$ 140/90 mmHg)		
		Men	Women	Total
Andaman & Nicobar	3219	27.9	9.0	18.5
Andhra Pradesh	11826	16.2	10.0	13.1
Arunachal Pradesh	16224	21.6	15.0	18.3
Assam	32307	19.6	16.0	17.8
Bihar	51243	9.4	5.9	7.7
Chandigarh	866	13.5	9.3	11.4
Delhi	6586	4.2	7.6	5.9
Goa	2457	13.2	8.5	10.9

Gujarat	28506	13.0	9.7	11.4
Haryana	25032	16.8	9.2	13.0
Punjab	22511	21.8	13.2	17.5

Source: Rajeev Gupta, et al, 2018

AIMS AND OBJECTIVES

1. To study the prevalence of pre-hypertension and hypertension in the community adjoining World college of Medical Sciences and Research, Jhajjar, Haryana
2. To screen out how many patients are suffering from pre-hypertension

METHODOLOGY

This study was carried out at World College of Medical Sciences and Research and Hospital, Jhajjar, Haryana. Visits to the adjoining villages were started in October 2019 to sensitize the community about the importance of screening of hypertension. This study is an ongoing study with special emphasis has been given to identify Pre-hypertensive patients and identify the risk factors. Screening was carried out in the Casualty Department of the hospital till April 2020 shown in images below.



According to Joint National Committee-7 (JNC-7) guidelines, Prehypertension is defined as having either a systolic blood pressure of 120 to 130 mmHg and/or diastolic blood pressure of 80 to 89 mmHg.

(Ferguson TS et al , 2008) (Kini S, et al, 2016). This collaborates with the table we have included in this study adopted from Park and Park, 25th edition

Category	Systolic Blood Pressure (in mm of Hg)	Diastolic Blood Pressure (in mm of Hg)
Normal	< 120	< 80
Pre-hypertension	120-139 or	80-90
Hypertension		
Stage.1	140-159 or	90-99
Stage 2	>160 or	>100

Observations

S.No.	Age/Sex	B P
1	20Y/F	110/64mm Hg
2	20Y/F	100/72mm Hg
3	20Y/F	118/76mm Hg
4	20Y/M	120/74mm Hg
5	22Y/M	120/100mm Hg
6	23Y/M	130/86mm Hg
7	23Y/M	126/84mm Hg
8	26Y/M	120/90mm Hg
9	26Y/M	118/74mm Hg
10	27Y/M	132/90mm Hg
11	28Y/M	124/80mm Hg
12	28Y/M	128/90mm Hg
13	28Y/M	118/73mm Hg
14	30Y/F	130/80mm Hg
15	30Y/M	110/72mm Hg
16	31Y/M	140/60mm Hg
17	32Y/M	124/86mm Hg
18	34Y/M	108/74mm Hg
19	35Y/F	110/70mm Hg
20	35Y/F	136/88mm Hg
21	35Y/F	112/78mm Hg
22	35Y/M	124/90mm Hg
23	35Y/M	130/70mm Hg
24	35Y/M	122/84mm Hg
25	36Y/M	129/78mm Hg
26	38Y/M	112/66 mm Hg
27	39Y/M	142/90mm Hg
28	39Y/M	136/84mm Hg
29	40Y/F	100/70 mm Hg
30	40Y/M	118/78mm Hg
31	40Y/M	110/70 mm Hg
32	40Y/M	90/60mm Hg
33	40Y/M	118/85mm Hg
34	43Y/M	134/88mm Hg
35	45Y/F	170/100mm Hg
36	45Y/F	180/120mm Hg
37	46Y/F	130/80mm Hg
38	48Y/F	146/84mm Hg
39	50Y/M	150/90 mm Hg
40	50Y/F	126/70mm Hg
41	50Y/M	126/82mm Hg
42	58Y/M	116/74mm Hg
43	60Y/F	140/82mm Hg
44	60Y/F	130/80mm Hg
45	60Y/F	100/70mm Hg
46	60Y/M	130/80mm Hg
47	60Y/M	110/80mm Hg
48	60Y/M	164/96mm Hg
49	64Y/M	148/80mm Hg
50	65Y/M	150/90mm Hg
51	72Y/M	150/70mm Hg
52	75Y/M	134/80mm Hg

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The total no of patients having pre-hypertension identified in this study was 20 out of 52 which is 38.4% of the total patients seeking care in this tertiary care hospital from rural area of Jhajjar, in Haryana. This is important and constitutes a sizable portion of the total patients screened. The total no of Hypertensive patients in Stage I were 8 out of 52 (15.38%) and in Stage II were 3 out of 52 patients. (5.7%) All these findings are according to systolic blood pressure

Category	Males	Females	Total
Normal	14	7	21
Pre-hypertension	15	5	20
Hypertension			
Stage.1	6	2	8
Stage 2	1	3	3
	37	15	52

DISCUSSION

Global status on Non Communicable Diseases (NCD) has reported that there were more than 2.5 million deaths from cardiovascular diseases in India in 2008, of which two third were due to coronary heart disease & one third due to strokes. The neglect of screening of pre-Hypertension and modify the risk factors identified at an early stage could pave way to reduce most CVDs in India. (Achari V, et al 2004).

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The neglect of screening of pre-hypertensive patients identifies a gap area in the overall management of hypertension in India, as most cases are treated in a tertiary based hospital settings, much neglecting the advantage of modifying the risk factors for hypertension which could be identified at an early stage in the community.

In a study carried out in Mangalore, India, among 624 people aged more than 20 years. 55% patients had prehypertension and 30% had hypertension. Prehypertension was higher among males. The risk factors which were identified were, obese individuals, and those with lesser physical activity, who never used tobacco and alcohol (Parthaje PM, et al, 2016)

In a study carried out in Kenya, approximately one in every two Kenyan adults had prehypertension. This calls for urgent development and roll-out of a national BP screening and control programme. (Mecha JO, et al, 2020) The study used data from participants in the Jamaica Lifestyle Survey conducted from 2000-2001. A sample size of 2012 persons, 15-74 years old, were used in this study.

Conclusion and recommendations

The total no of patients having pre-hypertension identified in this study was 20 out of 52 which is 38.4% of the total patients seeking care in this tertiary care hospital from rural area of Jhajjar, in Haryana. !

This is important and constitutes a sizable portion of the total patients screened. This is quite alarming as there could be some underlying factors operating in the community making young people hypertensives. The neglect of screening of pre-Hypertension and modify the risk factors identified at an early stage could pave way to reduce most CVDs in India.

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