Prevalence and Associated Risk Factors of Hypertension Among Adults in Selected Rural Areas of Sirmour District, Himachal Pradesh-A Pilot Study

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Abstract- *Hypertension, also known as high blood pressure. Normal blood pressure is at or below 120/80 mmHg. High blood pressure is anything above 140/90 mmHg.Hypertension is the most important risk factor for cardiovascular disease, chronic kidney disease, and neurological disorders.This study aimed to identify the prevalence and associated risk factors of hypertension among adults in selected rural areas of Sirmour district, Himachal Pradesh.For this study the research design adopted was descriptive design, and the sample was selected by one stage cluster sampling, the sample comprises of twenty subjects between the age of 20-60 year. The data was collected usingstructured interview schedule for collecting socio-demographic details and risk factor questionnaire, to calculate BMI the weight of the subjects were checked with weighing machine and height by measuring inch tape. Blood pressure was measured using digital BP apparatus in sitting position. Two readings at 5 minutes intervals and third reading after 30 min (≥140/90mmhg) as per World Health Organization (WHO) guidelines were recorded. The average of three reading was considered as subjects Blood Pressure. The results revealed that among 20 subjects, the prevalence of hypertension was 25% and 35% were having Pre-hypertension, 25% in stage-2 hypertension. Among the subjects with hypertension the identified risk factor were smoking (10%), alcoholic (10%), 25% were non vegetarians.*

Keywords- Hypertension, Prevalence, Risk Factor

I. INTRODUCTION

Hypertension is the medical term for high blood pressure, it is known as “silent killer” since it has no initial symptoms but can be lead to long term disease and complication[1]. Hypertension, also known as high or raised blood pressure, is a condition in which the blood vessels have persistently raised pressure. Normal blood pressure is at or below 120/80 mmHg. High blood pressure is anything above 140/90 mmHg[2]. Globally, nearly one billion people have high blood pressure out of these; two thirds are in the developing countries. It is one of the most important causes of premature death worldwide and problem is growing, in 2025 an estimated 1.56 billion adults will be living with hypertension; which kills nearly 8 million people every year[3]. Hypertension is the most important risk factor for cardiovascular disease, chronic kidney disease, and neurological disorders[4].It is associated with many risk factors such as sedentary lifestyle, smoking, stress, visceral obesity, potassium deficiency, obesity (more than 85% of cases occur in those with a body mass index greater than 25), salt (sodium) sensitivity, alcohol intake, and vitamin D deficiency that increase the risk of developing hypertension. Risk also increases with aging, and having a family history of hypertension[5].This study aimed to identify the prevalence and associated risk factors of hypertension among adults in selected rural areas of Sirmour district, Himachal Pradesh.

II. MATERIALS & METHODS

For this study the research design adopted was descriptive design, and the sample was selected by one stage cluster sampling, the sample comprises of twenty subjects between the age group 20-60 years.The data was collected usingstructured interview schedule for collecting socio-demographic details and risk factor of hypertension questionnaire, to calculate BMI, weight of the subjects were checked with weighing machine and height by measuring inch tape. Blood pressure was measured using digital BP apparatus in sitting position. Two readings at 5 minutes intervals and third reading after 30 min (≥140/90mm of Hg) as per World Health Organization (WHO)[6] and Joint National Committee (JNC)[7] guidelines were recorded. The average of three reading is considered as subjects Blood Pressure.

III. RESULTS

Socio-demographic profile of adults: Table -1 shows the distribution of subjects based on the sociodemographic profile. Majority 35% of subjects were in the age group of 51 & above years. Regarding gender male and females were in equal (50%) proportion. Majority 80% belongs to joint families,

35% had higher secondary education. Majority 50% were involved in private job. 30% had <3000 Rs as monthly income. Majority 85% were non vegetarian and 95% were had no previous history of any medical illness.

Table .1: Distribution of subjects based on the socio-demographic variables (N=20)

Sl.No.	Variables	Categories	Frequency (f)	Percentage (%)
1.	Age (Years)	20-30	5	25
		31-40	5	25
		41-50	3	15
		51& Above	7	35
2.	Sex	Male	10	50
		Female	10	50
3.	Type of family	Joint	16	80
		Nuclear	4	20
4.	Educational status	No formal education	3	15
		Primary	4	20
		Secondary	4	20
		Higher secondary	7	35
		Graduate & above	2	10
5.	Occupation	Self employed	7	35
		Govt. Employed	2	10
		Private	10	50
		Others	1	5
6.	Monthly Family Income	<Rs.3000	6	30
		Rs.3001-6001	6	30
		Rs.6001-9001	4	20
		>Rs.9001	4	20
7	Type of diet	Vegetarian	3	15
		Non Vegetarian	17	85
8.	History of Medical illness	Yes	1	5
		No	19	95

Table 2: Prevalence of Hypertension among subjects (N=20)

Blood Pressure(WHO)	Frequency (f)	Percentage (%)
Normal	15	75
Hypertension (≥140/90mmofHg)	5	25

Table -2& Fig.1depicts the prevalence of hypertension.25% of subjects were having hypertension according to WHO criteria[6]

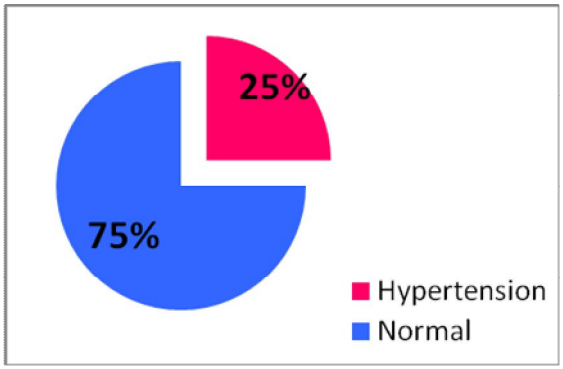

Fig.1. Prevalence of hypertension

Table 3: Distribution of subjects based on the Blood pressure, JNC IV [7](N-20)

Blood Pressure, JNC	Inference	Frequency	Percentage
SBP ≤119, DBP ≤79 mm of Hg	Normal	8	40
SBP 120-139; DBP 80-89 mm of Hg	Pre–Hypertension	7	35
SBP 140-159, DBP 90-99mm of Hg	Hypertension Stage 1	0	0
SBP ≥160: DBP ≥100mm of Hg	Hypertension Stage 2	5	25

Table -3 shows the distribution of subjects based on the blood pressures (JNC, Criteria)[7] Majority 40% were having normal blood pressure, 35% of subjects in pre-hypertensive stage and 25% in stage 2 hypertensive.

Table 4: Distribution subjects based on the associated risk factor of Hypertension (N= 20)

Variable	Categories	Non Hypertensive (n=15)		Hypertensive (n=5)	
		f	%	f	%
Smoking	Yes	5	25	2	10
	No	10	50	3	15
Alcohol	Yes	5	25	2	10
	No	10	50	3	15
Work	Yes	1	5	0	0
	No	14	70	5	25
Physical activity	Yes	15	75	0	0
	No	0	0	5	25
Diet pattern	Vegetarian	2	10	0	0
	Non Vegetarian	13	65	5	25
Fruits and Vegetables (>3times/day)	Yes	15	75	5	25
	No	0	0	0	0
Any Medication on daily basis	Yes	1	5	0	0
	No	14	70	5	25
Family History of Hypertension	Yes	1	0	0	0
	No	14	70	5	25
Any history of medical illness	Yes	1	5	0	0
	No	14	70	5	25
BMI	Normal	9	45	5	25
	Overweight	6	30	0	0

Table-4shows the distribution of subjects and the associated risk factor. 10% of the hypertensive were smokersand 10% of them consume alcohol, 25% among them were non vegetarians.

IV. DISCUSSION

Hypertension is a major public health problem worldwide and the most common cardiovascular disease. Early detection and timely intervention is important for the control of hypertension and its complications. This present study was carried out to find out the prevalence and risk factors of hypertension among adults. The prevalence of hypertension among subjects were 25% and 35% in Pre-hypertension, 25% in stage-2 hypertension and the risk factors identified such as smoking 10%, alcohol consumption 10%and 25% were non vegetarians. Similar finding were reported by Bhardwaj R. et.al, (2010)[8]36% were found to have hypertension and 24% were in Pre-hypertensive stage. In another study it was identified as hypertensive yielding a crude prevalence of 10.7%. The prevalence was higher 13% in males as compared to females 6% (Raina SK.et.al, 2016)[9]. In

this study it was found that 10% of the subjects with hypertension were smokers and 10% of them consume alcohol, 25% among them were non vegetarians. Similar study on associated risk factor of hypertension it was found that 13% were tobacco smokers and 20% reported drinking alcohol[10]. In another study the risk factors identified among the participants 34% were in the habit of consumption of alcohol, tobacco or both[11]. Regular screening and health education camps and strengthening of health care services are essential for early diagnosis.

V. CONCLUSION

This study revealed a high prevalence of hypertension and pre hypertension among adults. It supports the fact that hypertension is a public health challenge and more research needs to be done among adults in order to make the right policy interventions.

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