



Research Article

## A STUDY TO ASSESS THE PREVALENCE AND RISK FACTORS OF HYPERTENSION AMONG RURAL ADULTS IN SELECTED AREA OF ASSAM

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### ABSTRACT

Hypertension is iceberg disease. In the 1970's, it became evident that in most of the developed countries, only half of the general population of hypertensive subjects aware of the problem. Among them only half of them were treated.

**Methodology:** A descriptive survey approach was adopted to assess the prevalence and risk factors of hypertension among rural adults. A semi-structured interview schedule modified WHO stepwise approach structured checklist and BP apparatus was used. 160 samples were selected based on inclusion criteria. The data was collected and analyzed in terms of descriptive and inferential statistics.

**Results:** The results revealed that of prevalence of hypertension among rural adults was 61.9% [95% CL: (54.4-68.8) %], frequency and percentage distribution of level of risk factors of hypertension among 63.1% rural adults were moderate risk of hypertension. Association is found between prevalence and risk factors of hypertension with age, sex, religion, occupation and marital status. Education, Type of family, and family monthly income were not significant associated with risk factors of hypertension.

**Conclusion:** It is concluded that regular health education programme is needed to raise awareness; opportunity for detection in individuals seeking health care and periodic screening for early diagnosis and management should be done.

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### INTRODUCTION

Hypertension is an important public health issue and contributes to the incidence of stroke and CAD. In India, about 25% of adults in rural areas suffer from hypertension. The overall incidence of hypertension in India is estimated to be 66 million. Hypertension is more common in men than women.<sup>1</sup>

National Family Health Survey (NFHS-4), highlights that the top five states with highest prevalence are Sikkim (43.8%), Nagaland (39.1%) Andaman & Nicobar (36.9%) followed by Arunachal Pradesh 36.6% and Assam (35.6%). There are inter and intra disparities in prevalence rates that differ in case of men and women. For men, highest prevalence is 27.9% (in Andaman & Nicobar Island) while lowest (3.5%) is seen in Chandigarh. For women the highest and the lowest prevalence rate is 16.5% and 5.9% in Sikkim and Bihar respectively.<sup>2</sup>

Ramakrishnan S et al., (2019)<sup>3</sup> conducted a study on prevalence of hypertension among Indian adults. The results show that overall prevalence of hypertension was 30.7% and the prevalence among women was 23.7%.

Prevalence adjusted for 2011 census population and the WHO reference population was 29.7% and 32.8%, respectively.

#### Objectives

1. To assess the prevalence of hypertension among rural adults.
2. To find out the risk factors of hypertension among rural adults.
3. To find out the association between risk factors with selected socio-demographic variables.

### REVIEW OF LITERATURE

#### Prevalence of Hypertension

Saju MD et al., (2020)<sup>4</sup> conducted a study to estimate the prevalence, awareness, treatment, and control of hypertension and its associated risk factors in Ernakulam district, Kerala among the aged 30 years and above and the results showed that the prevalence of hypertension was 43%. It was slightly higher in women than men (43.7% vs. 41.4%). The mean systolic blood pressure in the hypertensive population was 141.9 mmHg and mean diastolic blood pressure was 85.3 mmHg. In total, 78% (86.2% in women, 62.9% in men) of the participants were aware of their hypertension.

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**Risk factors of Hypertension**

Ghosh S, Kumar M (2019)<sup>5</sup> conducted a cross sectional study on prevalence and associated risk factors of hypertension among persons aged 15–49 in India. The results showed that the proportion of population suffering from hypertension varied greatly between states, with a prevalence of 8.2% in Kerala to 20.3% in Sikkim. Advancing age, obesity/overweight, male sex, socioeconomic status and consumption of alcohol were found to be the major predictors of hypertension.

**METHODOLOGY**

**Research approach:** Quantitative descriptive research approach.

**Research design:** Non- experimental descriptive survey research design.

**Study setting:** Selected area of Nagaon, Assam.

**Target population:** Rural adults in the age group of 30 years and above of the village Thiotangoni, Nagaon (Assam).

**Accessible population:** Rural adults of the village Thiotangoni, Nagaon (Assam).

**Sample and sample size:** 160 of rural adults.

**Sampling technique:** Convenient sampling technique.

**Inclusion criteria**

1. Individuals whose age groups are 30years and above.
2. Individuals who are present during the study period.
3. Individuals who willing to give consent for participation.

**Demographic variables:** Age, sex, religion, educational qualification, occupation, family monthly income, type of family, and marital status.

**Research variables:** Risk factors of hypertension- Tobacco use, alcohol consumption, diet, dietary salts, physical activity, prevalence history of raised blood pressure.

**Selection of the tools:** Three tools were developed for collecting data, they are-

1. BP apparatus (manual).
2. Modified and pretested WHO step wise approach to chronic disease risk factor surveillance (STEPS) check list.
3. Semi structured interview schedule

**RESULTS**

**Section 1** Description of demographic characteristics of rural adults

**Table 1** Demographic profile of rural adults (n=160)

Demographic variable	No of rural adults	Percentage
Age	30-40 Years	26.30%
	41-50 Years	31.30%
	51-60 Years	26.90%
	Above 60 Years	15.60%
Gender	Male	50.00%
	Female	50.00%
Religion	Hindu	78.10%
	Muslim	18.80%
	Christian	2.50%

Educational qualification	Others	1	0.60%
	Illiterate	39	24.40%
	Matriculate	54	33.70%
	Higher Secondary level	40	25%
Occupation	Graduate level & above	27	16.90%
	Daily wage	32	20.00%
	Government Employees	13	8.10%
	Private Employees	39	24.40%
	Others	76	47.50%
Family monthly income	Less than Rs 10,000/-	25	15.60%
	Rs 10,001- Rs 20,000/-	55	34.40%
	Rs20,001 - Rs 30,000/-	35	21.90%
Type of family	More than Rs 30,001/-	45	28.10%
	Nuclear	63	39.40%
	Joint	78	48.70%
	Extended	19	11.90%
Marital status	Married	130	81.30%
	Unmarried	9	5.60%
	Divorced	1	0.60%
	Widow/widower	20	12.50%
Total		160	100.00%

**Table 1** depicts the frequency and percentage shows the demographic variables.

**Table no 2** Prevalence of hypertension among rural adults n=160

BP status	Number of rural adults	Percentage (%)	95%CI
Hypertensive	99	61.90%	54.4-68.8%
Normotensive	61	38.10%	31.3-45.6%

Table no 2 depicts the frequency distribution, percentage and confidence intervals of prevalence of hypertension among rural adults shows that 61.9% of rural adults had hypertensive whereas 38.1% of rural adults had normal blood pressure. Overall prevalence of hypertension among rural adults was 61.9% [95% CL:(54.4-68.8)%] respectively among 160 adults in aselected area.

**Section-3: Out comes observed on the risk factors of hypertension among rural adults**

**Table no 3** Level of risk factors of hypertension among rural adults. n=160

Riskfactors Level	Frequency	Percentage	Mean	SD
Low (5-9)	32	20.0%	7.44	1.268
Moderate(10-18)	101	63.1%	13.94	2.481
High(19-27)	27	16.9%	20.22	1.155
Total(5-23)	160	100%	13.7	4.422

Table no 3 depicts the frequency and percentage distribution of level of risk factors of hypertension. It shows that 20% rural adults were low risk of hypertension, 63.1% rural adults were moderate risk of hypertension and 16.9% rural adults were high risk of hypertension.

**Section 4** Findings related to the association between risk factors and selected socio-demographic variables among rural adults.

Demographic variables	Sub group	Risk factor			Chi-sq	df	P value	Results
		Low	moderate	High				
Age	30-40years	10	30	2	42	14.826	6	0.019* Significant
	41-50 years	10	35	5	50			
	51-60 years	6	24	13	43			
Gender	above 60 years	6	12	7	25	41.16	2	<.001** Significant
	Male	4	50	26	80			
	Female	28	51	1	80			
Religion	Hindu	26	84	15	125	14.04	6	0.014* Significant
	Muslim	4	15	11	30			
	Christian	0	1	0	1			
Education	Others	2	1	1	4			
	Illiterate	13	19	7	39			

	Matriculation	12	31	11	54				
	Higher Secondary	6	29	5	40	12.19	6	0.058 <sup>NS</sup>	Not
	Graduate and above	1	22	4	27				Significant
	Daily wage	5	16	11	32				highly
Occupation	Government employee	0	11	2	13	37.83	6	<.001 <sup>**</sup>	Significant
	Private employee	1	26	12	39				
	Others	26	48	2	76				
	Less than Rs10,000/-	7	15	3	25				
Family monthly income	Rs 10,001/--Rs20,000/-	10	33	12	55				Not
	Rs 20,001/--Rs30,000/-	8	22	5	35	3.173	6	0.81 <sup>NS</sup>	Significant
	More than Rs 30,001/-	7	31	7	45				
	Nuclear	12	39	12	63				
Type of family	Joint	16	49	13	78	0.78	4	0.958 <sup>NS</sup>	Not Significant
	Extended	4	13	2	19				
	Married	20	85	20	130				
Marital status	Unmarried	3	6	0	9	17.65	6	0.008 <sup>**</sup>	highly Significant
	Divorce	0	0	1	1				
	Widow/widower	9	10	1	20				

\*Significant at P<0.05\*\* Highly Significant at P<0.001<sup>NS</sup> Not Significant

## CONCLUSION

Hypertension is a major public health problem and directly responsible for 57% of all stroke deaths and 24% of all coronary heart disease deaths in India. Pooling of epidemiology studies shows that in India, hypertension is present in 25% of urban and 10% of rural subjects. At a conservative estimate there are 42 million, hypertensive in rural and 45 million in urban Indian population.

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