The Prevalence of Hypertension and Its Associated Risk Factors in Luksar Village, Gautam Budh Nagar, Up, India.

Dr.Anwar[1], Prof.Dr.N.H Simon [2], Assist.Prof.Dr.BhavnaSolanki[3]

1(Master of Public Health Student, Public Health Department, Noida International University, Delhi- NCR, India)
2(Director, School of Nursing & Health Sciences, Noida International University, Delhi- NCR, India)
3(Assistant professor, Public Health Department, Noida International University, Delhi- NCR, India)
Corresponding Author:Dr.Anwar

Abstract: Objectives: *The aim of the study to estimate the prevalence of hypertension and explore its associated risk factors in Luksar village population's age groups 18 to 60 years, Uttar Pradesh, India.*
Methods: *The present study was a cross-sectional study conducted by the department school of nursing and health science Noida international university in the rural practice area of Luksar village UP, India. Study timeframe is 6 months from December 2018 to May 2019. The socio-demographic variables and risk factors were obtained by an interview the subjects in the study and collected data through standardized structured questionnaires by seven experts.*
Result: *In the study, the prevalence of prehypertension was 12% in (20) subjects, stage 1. Was14.4% in (24) subjects, stage 2. 4.2% in (7) subjects. The peak age was at 49 to 60 years in both male in female's prevalence of HTN in males 49 to 60 was (77.7%) and in females at 49 to 60 years was (44.4%).*
Conclusion: *Present study showed that high prevalence of hypertension in rural 30.5% Uttar Pradesh, Central India. It can be concluded that there is significant burden of hypertension in. Age, education, and behavioral risk factors like diet pattern extra salt intake, smoking, stress, alcohol, but one is the important things is in our study those who were alcoholic prevalence was less when we compared with non-alcoholic user the present study. Education level of people should be raised to reduce the prevalence.*
Keyword: *Hypertension, BMI, Alcohol, Smoking, Diet*

I. Introduction

Hypertension (HTN) is a chronic medical condition and one of the most common life threating non-communicable diseases. It contributes 7.5 million deaths; about 12.8% of the total of all deaths. [1] The excessive high pressure on artery walls caused by HTN can damage blood vessels along with organ function. This increases the risk for developing several dangerous health conditions including heart attack, stroke, chronic heart failure (CHF), and kidney disease.[1-2] approximately 70% of people who have their first heart attack already have HTN. About 80% of people who have their first stroke have high blood pressure. [2] High blood pressure causes hardening and thickening of arteries (atherosclerosis), which decreases blood flow and oxygen to the heart. This can also cause chest pain, heart failure, or even a heart attack. Heart failure occurs when the heart cannot pump enough blood and oxygen to meet the body's needs. Heart attacks occur due to the blood supply to the heart being blocked; therefore, the heart does not get the necessary oxygen it needs to survive. [1-3] High blood pressure can also have damaging effects on the brain, specifically, it can cause an aneurysm or stroke.

II. Research methods

1.1Study Design
A community based cross-sectional study.

1.2 Study Setting
Luksar is a medium-sized village located in Gautam Buddha Nagar Tehsil of Gautam Buddha Nagar district, Uttar Pradesh with total of 296 families residing. The Luksar village has a population of 1701 of which 904 are males while 797 are females as per Population Census 2011. [9]

1.3 Sampling Technique
Multistage random sampling
1st stage simple random sampling
 2nd stage systematic sampling
3rd stage again simple random sampling

1.4 Data Collection Instrument
Primary data collected through questionnaire, which contain closed-end question translated to their native language. BP measurements were made after the subject had rested for at least 5 minutes in a seated position using manual mercury sphygmomanometer (ACCUMED.). The first blood pressure measurement is taken after obtaining socio-demographic information from the study subject whiles the second

reading of BP recorded after 5 minutes interval. If the difference of the two BP recordings was more than 10 mmHg a third reading was taken and the average of BP. Dr. Trust American weighing machine are used to determine the BMI(Body Mass Index) along with tape which used for length. Waist circumference also recorded by measuringtape.

1.5Data analysis
Data analyzed through IBM SPSS Version 20 Multivariable logistic regression done and cross-tabulation of the variables to determine Pearson value for significant and also chi squire test.

1.6 Inclusion Criteria
1.   Peoples age 18 to 60 who are the permanent residing in the Luksar village.
2.   Peoples who can read in their own language
3.   A resident of the study area who has lived in the area for more than 6 months.

1.7 Exclusion Criteria
1.   Hypertension patient with a sensory deficit like impaired vision, speech problem will be excluded
2.   Patients were unwilling to participate.
3.   Individual below 18 and above 60 years
4.   Non-residents of the study area and families that have lived in the area for less than 6 months.

III.   Result

A total of 167 peoples above 18 years of age were surveyed in the rural field practice area of Utter Pradesh, Luksar village, India 84 was males and 83 were females. Among 84 males, 33 (39.2%) and among females 83 (21.6%) found suffering from hypertension. Among 84 males, 10 were pre-hypertensive 11.9%, n= 17 were stage1: hypertension 20.2% and n= (6) were stage2: hypertension 7.1%. Of the 83 females 10 were Prehypertension 12.0%, 7 was stage1: 8.4% 1 was stage 2: hypertension 1. % . In addition, BP recoding the social-demographic characteristics and analyzed from the subject of the study. In our study, the peak age was at 49 to 60 years in both male in female's prevalence of HTN in males 49 to 60 (77.7%) and in females at 49 to 60 years was (44.4%). The difference observed was statistically significant (P Value .143) and a significant association between age and sex in hypertension.

Table1: Prevalence of HTN gender and age wise distribution in the study population

Sex	Age in year	Total surveyed	Hypertension (%)
Male	18 to 28	22	0 (0%)
	29 to 38	27	9 (27.3%)
	39 to 48	8	3(9.1%)
	49 to 60	27	21 (77.7%)
Total		84	33 (39.2%)
female	18 to 28	31	2 (11.1%)
	29 to 38	17	1 (5.6%)
	39 to 48	14	7 (38.9%)
	49 to 60	18	8 (44.4%)
Total		83	18 (21.6%)

Table2. Distribution of cases as per grades of hypertension (JNC8)

Gender	Normal	Pre hypertension	Stage 1	Stage 2	Total
Male	51 (60.7%)	10 (11.9%)	17 (20.2%)	6 (7.1%)	84(100%)
Female	65 (78.3%)	10 (12%)	7 (8.4%)	1 (1.2%)	83 (100%)
Total	116 (69.4%)	20 (11.9%)	24 (14.3%)	7 (4.1%)	167 (100%)

Distribution of cases as per grades of hypertension (JNC8)

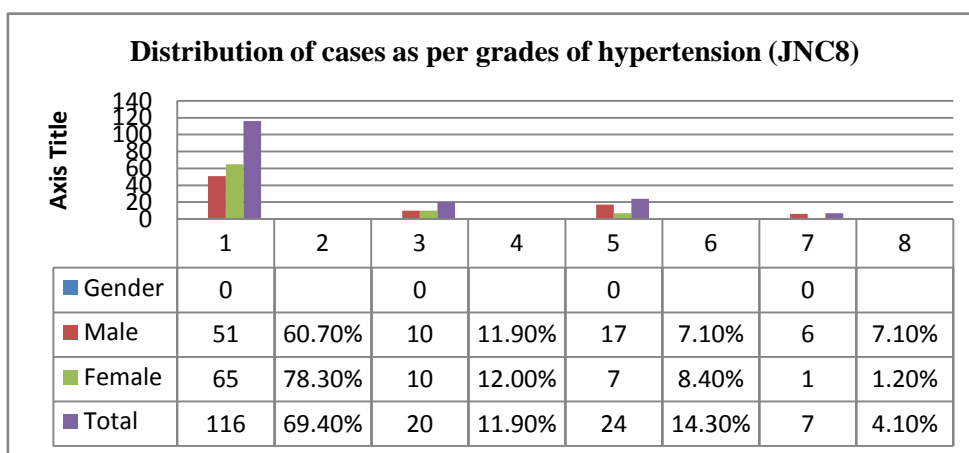|	1	2	3	4	5	6	7	8
Gender	0		0		0		0	
Male	51	60.70%	10	11.90%	17	7.10%	6	7.10%
Female	65	78.30%	10	12.00%	7	8.40%	1	1.20%
Total	116	69.40%	20	11.90%	24	14.30%	7	4.10%

Table3: Prevalence of HTN Distribution by Socio-Demographic Status

Variables	Group	Total surveyed	Non hypertensive n= 116		Hypertensive n=51	
Gender	Male	84	51 (60.7%)		33	(39.2)
	Female	83	65 (78.3%)		18	(21.6%)
Age	18 to 28	55	53 (94.4%)		2	(3.6%)
	29 to 38	45	35 (77.8%)		10	(22.2%)
	39 to 48	22	12 (54.5%)		10	(45.5%)
	49 to 60	45	16 (35.6%)		29	(64.4%)
Religion	Hindu	157	111 (70.7%)		46	(29.2%)
	Muslim	10	5 (50%)		5	(50%)
	Other	0	0		0	
physical activity	Active	61	47 (77.0%)		14	(23%)
	Non-active	106	70 (66.1%)		36	(33.9%)

Table4. Prevalence of HTN by Behavioral risk factors of the study population.

Variables	Total Surveyed with type selection	Group	Non-hypertension n= 116	Hypertensive n=51
Diet pattern	107	Vegetarian	71 (70.1%)	33 (29.9%)
	20	Non-vegetarian	12 (60.0%)	8 (40.0%)
	40	Mixed	30 (75%)	10 (25.0%)
Extra salt intake	13	Use	2 (23.1)	10 (76.9)
	154	Not use	113 (73.4)	41 (26.6)
Smoker	72	Smoker	4 (58.3%)	30 (78.9%)
	95	Non-smoker	7 (41.7%)	20 (21.1%)
Alcohol	51	Alcohol user	39(76.5%)	12 (23.5%)
	116	Non-alcohol user	77 (66.4%)	39 (33.6%)
Family history of HTN	37	Positive	10 (27%)	27 (73%)
	130	Negative	107 (82.3%)	23 (17.7%)

BMI	2	Underweight	2 (1.7%)	0 (0%)
	56	Normal	42 (36.2%)	14 (27.5%)
	39	Overweight	35 (30.2%)	4 (7.8%)
	70	Obese	37 (30.2%)	33 (64.7%)

IV.   Discussion

In the current study, the prevalence of hypertension was found to be (30.6%) among the rural participants. In the present study, higher prevalence hypertension was observed among males 39.2% than females 21.6% which is similar to the findings by different studies like that of Kaur P et al in South India, Kokiwar et al in Central India and Thankappan et al in Kerala.[10, 11]Findings of a multinational prospective urban-rural epidemiological study done across the 17 nation, showed variable extent among urban and rural settings of the prevalence of hypertension across higher income nations (urban- 36.4% vs. rural - 40.2%), upper middle income nations (urban- 45.2% vs. rural-46.9% lower middle income nations (urban- 34.9% vs. rural-38.7%), and low income nations (Urban- 44.4% vs. rural 39.2%) respectively. [12] In most of the studies, a slightly higher prevalence of hypertension has been observed in settings as compared to urban settings, probably because of the low literacy rate or poor awareness among the rural population or the limited accessibility to the health centers. Prevalence of hypertension is more or less similar to the prevalence found in different studies conducted in rural settings from 2004-2016.

V.   Conclusion

Present study showed that high prevalence of hypertension in rural 30.5% Uttar Pradesh, Central India. It can be concluded that there is significant burden of hypertension in. Age, education, and behavioral risk factors like diet pattern extra salt intake, smoking, stress, alcohol, but one is the important things is in our study those who were alcoholic prevalence was less when we compared with non-alcoholic user the present study. Education level of people should be raised to reduce the prevalence.

VI.   Study limitation

Blood Investigation and Time Funding: No Funding Sources
Conflict Of Interest: Not Declare
Ethical Approval: The Institutional Ethics Committee Approved theStudy

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