



PREVALENCE OF HYPERTENSION IN HANAMKONDA DISTRICT RURAL AND URBAN POPULATION.

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ABSTRACT:

The present study was undertaken by selecting 1117 subjects in Warangal city, to assess the prevalence of hypertension and its determinants. Urban – rural difference in hypertension prevalence and risk factor distribution, were also assessed during the course of the study. The overall prevalence of hypertension was found to be 24.26% in urban and 13.16% in rural area. These results were comparable to the rates obtained by Gupta R¹⁹ in his study titled ‘Trends in hypertension epidemiology in India’, where the prevalence of hypertension has been reported to range between 20-40% in urban adults and 12-17% among rural adults. Significant urban predominance over their rural counterparts was found with respect to the following socio-demographic factors: Age (4th, 6th & >7th decades), sex (male), occupation (agriculture, housewives, businessmen & retired personnel), education, socio-economic status (class III) and marital status (unmarried & married). Most of the studies among Indian rural population have reported a lower prevalence of hypertension than our study. Although life in rural areas is not necessarily peaceful or free from stresses, the pace of life is more rhythmic and slower than that in urban societies. This could be the reason for the findings of the present study wherein we have found that the hypertension prevalence in urban area is 2.11 times more when compared to the rural area.

Key Words: Hypertension, Sphygmomanometre, Urban & Rural population, Cross Survey Study

INTRODUCTION

Systemic arterial hypertension (hereafter referred to as hypertension) is characterized by persistently high blood pressure (BP) in the systemic arteries. BP is commonly expressed as the ratio of the systolic BP (that is, the

pressure that the blood exerts on the arterial walls when the heart contracts) and the diastolic BP (the pressure when the heart relaxes).[1] The following factors causes high B.P 1) Increase intake of sodium(Health authorities recommend between 1,500 **mg** (1.5 grams) and 2,300 **mg** (2.3 grams) of **sodium per day** for heart health). Hypertension is called a "silent killer". Most people with hypertension are unaware of the problem because it may have no warning signs or symptoms. For this reason, it is essential that blood pressure is measured regularly. When symptoms do occur, they can include early morning headaches, nosebleeds, irregular heart rhythms, vision changes, and buzzing in the ears. Severe hypertension can cause fatigue, nausea, vomiting, confusion, anxiety, chest pain, and muscle tremors. The only way to detect hypertension is to have a health professional measure blood pressure. Having blood pressure measured is quick and painless. Although individuals can measure their own blood pressure using automated devices, an evaluation by a health professional is important for assessment of risk and associated conditions. When Nerve impulses occur of the blood vessels becomes constrict or dilates ,Constriction of blood vessels leads to narrowing of blood vessels(arteries) results in inside the blood vessels increases pressure .If blood vessels dilates leads to widening of blood vessels results in decreasing pressure.Vaso constrictors constrict the blood vessels → increase BP.Vaso dilators dilate (or) relaxation the blood vessels → decrease BP.If uncontrolled hypertension causes savour disorders like congestive heart failure, renal artery failure & stroke.

MATERIALS AND METHODS

MAETERILS:Mercury Sphygmomanometer Mercury Sphygmomanometer, Measuring tape

Weighing machine

METHADODOLOGY:

The present study was carried out in the Warangal district in Telangana state.

The study was conducted within the limits of Warangal Municipal Corporation of some areas. Warangal city is governed by Municipal Corporation which comes under Warangal Metropolitan Region. The Warangal city is located in Telangana state of India. As per provisional reports of Census India, population of Warangal in 2011 is 615,998; of which male and female are 308,509 and 307,489 respectively. Although Warangal city has population of 615,998; its urban / metropolitan population is 753,438 of which 377,943 are males and 375,495 are females.

Study population: Study population comprised of persons with age 18 years & above in an urban and rural community of Warangal district.

Study design: A cross-sectional, comparative study.

Diagnostic criteria: Based on JNC VII ¹⁴ & WHO¹⁰ criteria, a person was considered hypertensive if ;SBP \geq 140 and/or DBP \geq 90 mmHg. Persons already on anti-hypertensive treatment.

Sample size: 1117

Rural area: In this, population of 2,300 was selected for the study. All the persons above 18 yrs (1,240 as per voters list) were taken for the study. Among 1,240 adults 1117 were examined and the remaining 123 were excluded because of non-availability even after repeated visits.

Urban area:

A municipal ward (No. 56) comprising of Bheemaram Srinagar colony and Sadanada colony & in the Warangal city having a population of 4,500 was selected by simple random sampling (Lottery method). Among them, 1,200 adults in every alternate house were selected by systematic random sampling method, for the comparison with the rural population.

Method of collection of data:

Duration of the study: The study was carried out from June 2023 to Jan 2024.

Collection of data: All the subjects were personally contacted in their house, examined and interviewed using the pre-tested proforma. On visiting the family, baseline data of the family members was taken using section I of the proforma (Annexure 1) and persons above 18 years were screened by taking two BP readings at an interval of 3mins. Average of the two readings was considered. Those found to have hypertension were examined in detail and further history was recorded in section II (Annexure 2) of the proforma.

Instruments used for data collection: Following were the instruments used during the study, Mercury Sphygmomanometer: BP was measured with a standard mercury sphygmomanometer which was checked regularly against a similar instrument and was regularly standardized throughout the period of data collection.

Weighing machine: The weight was taken on a portable weighing machine with a calibrated scale of 0.5kg marked from 0 to 130kgs and the machine was frequently checked against a standard weight. Measuring tape: Height was measured with a calibrated measuring tape marked in centimeters. The measurement was taken in erect standing position, barefoot with feet together, heels against the wall and looking straight ahead.

Study variables: Extra Salt intake: It was assessed by enquiring whether they had the habit of consuming pickle, papad or adding extra table salt frequently. Alcohol consumption: Current user: A person who was consuming alcohol at the time of study

ii. Non-Alcoholic: A person who has never consumed alcohol. iii. Physical activity: Physical activity was assessed based on the occupation⁸² of subjects, and leisure time activity was not considered

RESULTS

Physical activity among Hypertensives

| Physical activity | URBAN (n=271) | RURAL (n=147) | Total (%) |
|-------------------|---------------|---------------|------------|
| | Number (%) | Number (%) | |
| Sedentary | 244(90.03) | 82(55.78) | 326(77.99) |
| Moderate | 26 (9.59) | 45(30.61) | 71(16.99) |
| Heavy | 01(0.37) | 20(13.61) | 21(5.06) |
| Total | 271(100) | 147(100) | 418(100) |

Above table shows that among urban hypertensives, 90.03% led a sedentary life-style, while 9.59% were moderate workers, and 0.37% subjects were heavy workers. Among rural hypertensives, 55.7% led a sedentary life-style, while 30.61% were moderate workers and 13.61% were heavy workers

Type of Diet among Hypertensives

| Diet | URBAN (n=271) | RURAL (n=147) | Total (%) |
|----------------|---------------|---------------|------------|
| | Number (%) | Number (%) | |
| Vegetarian | 184(67.9) | 98(66.66) | 282(67.46) |
| Non-vegetarian | 87 (32.1) | 49(33.34) | 136(32.54) |
| Total | 271(100) | 147(100) | 418(100) |

Above table shows that among urban hypertensives, 90.03% led a sedentary life-style, while 9.59% were moderate workers, and 0.37% subjects were heavy workers. Among rural hypertensives, 55.7% led a sedentary life-style, while 30.61% were moderate workers and 13.61% were heavy workers

Alcohol consumption among Hypertensives

| Alcohol | URBAN (n=271) | RURAL (n=147) | Total (%) |
|----------|---------------|---------------|------------|
| | Number (%) | Number (%) | |
| User | 46(16.98) | 17(11.56) | 63(15.07) |
| Non-user | 225(83.02) | 130(88.44) | 355(84.93) |
| Total | 271(100) | 147(100) | 418(100) |

The above table shows that out of 271 urban hypertensives, 46 (16.98%) consumed alcohol whereas out of 147 rural hypertensives, 17 (11.56%) gave a history of alcohol consumption. Alcohol consumption is more (1.56 times) in urban hypertensives when compared to rural hypertensives, however this was not statistically significant with $p=0.140$.

DISCUSSION

The present study was undertaken by selecting 1117 subjects in Warangal city, to assess the prevalence of hypertension and its determinants. Urban – rural difference in hypertension prevalence and risk factor distribution, were also assessed during the course of the study.

Prevalence of hypertension:

In our study the overall prevalence of hypertension was found to be 24.26% in urban and 13.16% in rural area. These results were comparable to the rates obtained by Gupta R¹⁹ in his study titled ‘Trends in hypertension epidemiology in India’, where the prevalence of hypertension has been reported to range between 20-40% in urban adults and 12-17% among rural adults.

Physical activity with hypertension: Our study shows that 90.03% urban hypertensives led a sedentary life-style whereas it was 55.7%. among rural hypertensives. Odds ratio for these variables gave a value of 7.16, which shows that prevalence of sedentary lifestyle is more common among urban hypertensives when compared to their rural counterparts. It has been seen that sedentary individuals have 20-50% increased risk of developing hypertension.

Diet with hypertension: In our study among the hypertensives 67.9% in urban and 66.66% rural area were found to consume vegetarian diet. Among the urban hypertensives 81.2% consumed >6gms of salt per day, whereas similar consumption was seen among 59.2% of rural hypertensives. Consumption of salt (>6 gms/day) was 2.97 times more in urban hypertensives when compared to their rural counterpart. However, extra salt intake was equivocal between urban and rural hypertensives. Higher urban salt consumption found in our study could be due to increase in the consumption of sodium with modernization

Alcohol consumption with hypertension In the present study, alcohol consumption among urban hypertensives was 1.56 times more when compared to their rural counterparts. However, rural hypertensives consumed ≥ 210 ml of alcohol 3.28 times more when compared to their urban counterparts. Duration of alcohol consumption (≥ 10 yrs) among urban hypertensives was

3.04 times more when compared to their rural counterparts

CONCLUSION

- The prevalence of hypertension was 24.26% among urban and 13.16% among rural adults. This difference was found to be significant. Present study hypertension was observed in alcohol, lack of physical activity, Diet, High Salt intake persons. So these factors contributing in hypertension

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