

Prevalence of Hypertension and Socio-demographic Profile of Kamanpur Village, Karimnagar, Andhra Pradesh

Kannan K¹, Bharat Kumar S², Murari Rajendra Prasad³, Jogdand GS⁴

ABSTRACT

Aim: Cardiovascular diseases especially hypertension is emerging as a prominent public health problem in developing countries. With a steady rise in prevalence of hypertension and its late diagnosis, the mortality and the morbidity due to hypertension per se and its sequels are on the rise. The objectives of the study were to find the prevalence of hypertension and the socio-demographic profile of rural Population of kamanpurvillage, Karimnagar, Andhra Pradesh.

Methods: A population based cross sectional study was conducted in kamanpur village, during the month of September 2012; whole population was surveyed through personal interview by trained medical undergraduates. All subjects were interviewed and examined. A total of 2201 subjects were studied. For classifying hypertension WHO criteria were taken. The obtained data was tabulated and results were interpreted using appropriate descriptive statistic methods.

Results: The prevalence of hypertension in the study population was found to be 9.7%. majority of population were in the age group of 26-50 yrs (36.6%). About 38.3% of village population were illiterate and majority of the people (21%) were engaged in labour work in different field including granite stone industries. Statistical significant difference was found between, education status, occupation and marital status of individual with hypertensive and normotensive.

Conclusion: The present study has revealed that the prevalence of hypertension in kamanpur village, Karimnagar Dist. was found to be 9.7%. Further detailed research studies need to be conducted to know the factors responsible for the same.

Keywords: Hypertension, demographic factors

¹ PG Student,
^{2,3} PG Student,
⁴ Professor
Department of
Community Medicine,
Chalmeda Anand Rao
Institute of Medical Sciences,
Karimnagar.

Correspondence :

¹Dr. K. Kannan
MD (PG Student)
E-mail:
drkannan83@gmail.com

INTRODUCTION

Cardiovascular diseases are the principle cause of death in all developed countries accounting for 70% of all deaths and are also emerging as a prominent public health problem in developing countries, ranking third with nearly 30% of all deaths. According to 2011 census there are 1200 million adults in India of whom 840 million reside in rural areas and 360 million stay in urban areas, the absolute number of hypertensive in India is 62.5 million and 68 million in rural and urban areas respectively ⁽¹⁾. Although the rise and the recent decline of the cardiovascular disease epidemic in the developed countries have been well documented, their emergence in the developing countries during the past two

to three decades has attracted less comment and little public health response.

More than a quarter of the world's adult population totalling nearly 1.5 billion had hypertension in 2010 and this proportion is expected to increase to approximately 52% (23.6 billion) by 2025. There are 600 million hypertensive in the world at risk for heart attack, strokes and cardiac failure.

In India, being in the transitional zone of becoming a developed country from its present status of a developing country has reasons to celebrate, but cautiously. The life expectancy in India has risen from 41.2 years in 1951-1961 to around 64 in 2001-2009⁽²⁾ In 2010 the prevalence rate of

hypertension was 59.9% and 69.9% in urban population Male & Female and 35.5% and 35.9 %in rural population⁽³⁾.

Considering the lack of information, national interest and budget limitation, this small-scale study was carried out as a part of rural service from CAIMS Institute, to determine the prevalence of hypertension among people aged 25 years or above and to explore the socio demographic profile of this village people.

MATERIALS AND METHODS

The village selected in the study was 15 kilometres away from the city and District hospital. Before starting the cross-sectional survey, the list of all people including the age group of 25 years and above, currently living in the selected village (about 2300 people) was developed with the help of local

Table 1: Distribution of study subjects according to their age category:

Age category (year)	Hypertensive(%)	Normotensive(%)	Total (%)
15-25	0(0)	517(100)	517(100)
25-50	41(5.1)	765(94.9)	806(100)
51-65	45(16.6)	226(83.4)	271(100)
>66	32(23.4)	105(76.6)	137(100)

$\chi^2 = 141.5.14$, $df = 6$, $p < 0.00001$

Table 2: Distribution of study subject according to their education status

Educational status	Hypertensive	Normotensive	Total
Illiterate	95 (12.2%)	688 (87.8%)	783 (100%)
Primary	3 (3.6%)	80 (96.4%)	83 (100%)
Secondary	12 (6.1%)	185 (93.9%)	197 (100%)
Higher secondary	4 (5.4%)	70 (94.6%)	74 (100%)
Degree	4 (5.2%)	73 (94.8%)	77 (100%)
Total	118 (9.7%)	1096 (90.3%)	1214 (100%)

$\chi^2 = 14.66$, $df = 4$, $p = 0.0054$

Table 3: Distribution of study subject according to their occupation

Occupational status	Hypertensive	Normo-tensive	Total
Agriculture	40 (11.8%)	299 (88.2%)	339 (100%)
Unskilled	21 (4.9%)	411 (95.1%)	432 (100%)
Driver	1 (2.2%)	45 (97.8%)	46 (100%)
Skilled worker	3 (8.3%)	33 (91.7%)	36 (100%)
Professional	2 (5.1%)	37 (94.9%)	39 (100%)
Housewife	27 (12%)	198 (88%)	225 (100%)
Not Applicable (retired and aged)	23 (28%)	59 (72%)	82 (100%)
Business	1 (6.7%)	14 (93.3)	15(100%)
Total	118 (9.7%)	1096 (90.3%)	1332 (100%)

$\chi^2 = 50.18$, $df = 7$, $p < 0.0001$

Table 4: Distribution of study subject according to their marital status

Marital status	Hypertensive	Normaltensive	Total
UnMarried	2 (3.6%)	54 (96.4%)	56 (100%)
Married	98 (9.2%)	970 (90.8%)	1068 (100%)
Widow/er	18 (20%)	72 (80%)	90 (100%)
Total	118 (9.7%)	1096 (90.3%)	1214 (100%)

$\chi^2 = 13.61$, $df = 2$, $p = 0.0011$

authority and used for recruitment. Those who were working in other places were not included in the list. The non-response rate was about less than 10%. During the survey, around 5% of respondents, who were not in the list, were recruited during their temporary stay in Kamanpur. Such respondents included construction workers and granite workers. After taking verbal informed consent, a total of 2201 people were examined. Interns measured the blood pressure by using standardized Sphygmo-manometers. Firstly, all were requested to rest for at least 10 minutes before blood pressure measurement in a lying down position on left arm. This procedure was repeated five minute after the first measurement. Next, a one-to-one interview was conducted using a structured questionnaire to all village population.

ANALYSIS

Data was entered in Microsoft Excel 2010 and analysed with SPSS version 17.0 software. Criteria of systolic blood pressure 140 mmHg and above and diastolic blood pressure 90 mmHg and above, were used for recording the hypertension status. The percentages of hypertension for 25 years and above age groups were calculated. P value was calculated for all socio demographic factors and only significant factors were included here.

RESULTS AND DISCUSSION

(i) Socio Demographic Profile of Village: The mean age of study population was 31.7 ± 19.88 with the range of 12 days to 95 years. About 50.7% of study population were males and 49.3% were females. Majority of study population (36.6%) were belongs to age group of 26-50 years. And about 38.3% of population in this village were illiterate. Regarding religion 99% were Hindus followed by Muslims and Christians. The main occupation was labour work (21%) followed by agricultural work (16.2%), about 13.7% of females were housewives. Majority of study population were belongs to Lower Middle class (40.5%) followed by upper middle (28.3%), upper lower (19.5%), upper class (7.7%) and Lower class (4%), socio economic classification was done according to B.G.Prasad scale. 68% of population were in Nuclear type of family, 20% were 3 Generation family and

only about 11% were Joint family. About 58.3% of population lives in Kuccha type of houses.

(ii) The prevalence of hypertension in this village was found about 9.7% among the age of 25 years and above. Table 1 depicts the distribution of study subjects according to their age category and the consistent rise in prevalence rate of hypertension with increasing age was found to be statistically significant ($p < 0.001$). This association has also been indicated in many studies⁽¹¹⁾.

Table 2 describes the distribution of study subjects above 25 years according to their educational status and the difference between the groups was statistically significant ($p = 0.005$). Table 3 depicts the distribution of study subjects (>25 yrs) according to their occupation which shows agriculture workers and manual workers were having high prevalence and it was significant ($p < 0.0001$). Table 4 shows distribution of study subjects (>25 yrs) with their marital status and describes hypertension was more common among ever married individuals and the p value found highly significant ($p = 0.001$)

By San Shwe et al⁽⁴⁾ in their study found the prevalence of hypertension among two selected villages was 22.4%. Khadilkar H. A.⁽⁵⁾ et al conducted a study of prevalence of hypertension in a rural community (Chanai) in Maharashtra, Among total population screened (1419) 84 cases of hypertension were found. Thus, the overall prevalence being 5.92% Chi test revealed that there was a significant increase in the prevalence of hypertension with increasing age in both sexes ($p < 0.001$).

The study by Sharma B R⁽⁶⁾ found that hypertension was equally prevalent in both married and divorced/separated/widowed group. A case control study done by Deswal B.S et al⁽⁷⁾ in Pune found no association between hypertension and marital status.

Similar to our study, Uneducated and less educated people in rural area have a higher prevalence of hypertension according to different studies done by, Gupta V P et al⁽⁹⁾ in Rural Rajasthan and Hazarika NC et al⁽⁸⁾ in Assam. Shashi A Chiplonkar⁽¹⁰⁾ et al found no significant association between occupation or activity level and hypertension ($p > 0.2$) in a study conducted in Pune.

CONCLUSION

The present study found the prevalence of hypertension among Kamanpur village as 9.7%, and the importance of education, occupation and Marital status on hypertension,

and the study recommends further research on this background to elaborate the findings.

REFERENCES

1. Rajeev Gupta. Recent trends in hypertension epidemiology in India. *South Asian Journal of Preventive Cardiology*. 2011; 7 (2): 90 – 100.
2. Park K. Textbook of Preventive and Social Medicine. 20th Edition. 2010; M/s Banarsidas Bhanot Publishers. Jabalpur.
3. Gupta R. Trends in hypertension epidemiology in India. *Human Hypertension* 2004; 18(2): 73-8
4. By San Shwe. Prevalence of Hypertension in Two selected villages of Kayin State, Myanmar, *Clinical and experimental hypertension* 1994 Sep; 16(5): 545-63.
5. Khadilkar H. A, Ghattargi C. H, Thite G. H. Study of prevalence of hypertension and Socio demographic factors in rural community of Maharashtra. *South Asian Jou. Of Prev. Cardiology*. 2004 Oct – Dec; 8 (4): 205 – 10.
6. Sharma B R. An Epidemiological study of hypertension in adult population (20 –60 years) of R.S.Pura Block – rural area of J & K State. Jammu; 1996.
7. Deswal B S, Satyamoorthy T S, Dutta P K, Ganguly SS. An Epidemiological study of Hypertension among Residents in Pune: *Indian Journal of Community Medicine* 1991; 16(1): 21 – 28.
8. Hazarika NC, Biswas D, Mahanta J. Hypertension in the elderly population of Assam. *JAPI*. 2003 June; 51.
9. Gupta R, Gupta V P, Ahluwalia N S. Educational status, Coronary heart diseases and coronary risk factor prevalence in a rural population of India. *BMJ*. 1994 Nov ; 309 (6965) : 1332 – 6.
10. Shashi A. Chiplonkar, Vaishali V. Agte, Kirtan V. Tarwadi, Kishore M. Paknikar and Uma P. Diwate.. Micronutrients deficiencies as predisposing factors for Hypertension in Lacto – Vegetarian Indian Adults. *Journal of American College of Nutrition*. 2004; 23(3): 239-247.
11. Gupta S. P, Siwach S.B, Moda V. K. Epidemiology of Hypertension based on total community survey in the rural population of Haryana. *Indian H. J.* 1977; 29(2): 3-61.