

Original article

Prevalence of Systemic Hypertension among the rural residents of Kerala

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Abstract

Systemic Hypertension is the “silent killer” of our times throughout the world. It is associated with target organ damage, such as chronic kidney disease, coronary artery disease, stroke and sudden death. We did the study to analyse if there is any relation between age and gender in the prevalence of systemic hypertension in rural Kerala. Data was procured from the PROLIFE database on non-communicable diseases with subjects spanning over 3422 conducted in two wards of Chemmaruthy panchayath area, Varkala, Kerala. Blood pressure was measured using OMRON electronic device using house visits and analysed. It revealed that about 33.5% of the total subjects were hypertensive with 65.6% of those above 60 years affected. The prevalence increases with age in both genders and females are more vulnerable after menopause. So we should expect a catastrophic increase in the casualties due to the complications of hypertension in the near future in Kerala.

Keywords: - Hypertension, Kerala, Prevalence, Menopause

Introduction

In India, we thought of lifestyle diseases only in the urban setting; so the medical fraternity has concentrated more on the urban people leaving the rural population. There has been an upgradation of the lifestyle in the rural

areas (two wheelers, bus services, fast food etc.) leading to a dramatic reduction in the level of exercise as well as an increase in the stresses of life. Also the paddy fields and other basic agricultural activities are disappearing from the Keralite's dreams and they are in the search out for the “Tourism” gift. This has led us to the verge of a study on the rural population on the aspect of hypertension. A recent ICMR report has shown the prevalence of hypertension as 164.18 per 1000 adults in urban as well as 157.44 per 1000 adults in rural areas.¹ Hypertension and its complications may necessitate the need of upgradation of the basic healthcare facilities at the rural setting to the secondary or tertiary level.² It has a great impact on the economic and other infrastructural activities other than the setting up of healthcare facilities which are badly in need of in the near future. The rural productivity may also be affected because of this morbidity.

Materials and methods

This study was part of an ongoing longitudinal study ‘PROLIFE’ conducted by the Health Action by People in two wards of Chemmaruthy panchayat area, Varkala; including 3422 subjects.

Blood pressure of subjects over 20 years were taken with OMRON electronic device by home visits. Only single recordings were done. Systemic Hypertension was defined using Joint National Committee (JNC VI) classification.³ Data entry using

Microsoft Excel 2003 and analysis using SSPS 10.0.

Blood pressure levels were categorized according to age and gender. The age groups were 20 – 29, 30 – 39, 40 – 49, 50 – 59 and 60 – 100 years.

Results

The distribution of the total subjects and hypertensives across various age groups and gender is as shown in the Table No.1 and Table No.2.

| Age Group | Gender | | Total |
|-----------|--------|--------|-------|
| | Male | Female | |
| 20 – 29 | 54 | 93 | 147 |
| 30 – 39 | 61 | 132 | 193 |
| 40 – 49 | 76 | 126 | 202 |
| 50 – 59 | 75 | 111 | 186 |
| 60 - 100 | 143 | 276 | 419 |
| Total | 409 | 738 | 1147 |

| Age Group | Gender | | Total |
|-----------|--------|--------|-------|
| | Male | Female | |
| 20 – 29 | 314 | 759 | 1073 |
| 30 – 39 | 191 | 589 | 780 |
| 40 – 49 | 184 | 351 | 535 |
| 50 – 59 | 163 | 233 | 396 |
| 60 - 100 | 232 | 406 | 638 |
| Total | 1084 | 2338 | 3422 |

Discussion

Distribution of Hypertension in the population

About 33.5% of the subjects were hypertensive (either pre-detected or newly detected cases) out of which 64.3% were females and 35.7% were

males. In a study in rural Kerala in 1993, the prevalence was 179 per 1000 adults.⁴ But in gender as a whole, 37.7% of the males were affected and 31.5% of the females were affected. As a whole men have more predilection to hypertension with Odds ratio OR= 1.31 (95% CI 1.13 – 1.52). This shows us the

data that males are more prone for hypertension than females as a whole which is in concordance with another study in Thiruvananthapuram.⁵

Distribution of Hypertensives on the basis of age groups and gender

In the productive age group (30 – 49 years), 36.5% of the males were affected and 27.1% of the females affected. We found that as age increases from 20 to 49 years, the prevalence among males is high, but afterwards females overtake men. But in the past fifties, females were contributing more (60.5%) than males (55.1%) with overall prevalence of 585.1 per 1000 adults. In a study in Thiruvananthapuram (2000), with mean age 70 years, the prevalence was 51.8% with no gender difference, but in our study it was 65.6% with gender difference.⁶ In the present study, we found that women above 49 years have more chance of becoming hypertensive than their younger counterparts with Odds ratio OR=5.89 (95% CI= 4.84 – 7.18)

Conclusion

It is high time that all the non-communicable diseases should be controlled by the apt intervention from all corners. Hypertension being a disease if not controlled at the appropriate time can lead to uneventful catastrophies and so an economic crisis to the nation as what we have seen during famines and wars. In a recent survey in rural Andhra Pradesh

circulatory diseases have contributed to 32% of the total deaths.⁷ This will lead to the gradual decline in the health supremacy of the Keralites which is at par with the Western standards.

More than 30% of the population we studied were hypertensive. This means everyone should have their blood pressure checked once in 6 months after they cross 30 years or so. We recommend 30 as the cut off because the overall prevalence in the thirties was 25%. We found that prevalence was on the higher side in females above the age of 49 years, but below 49 years men were more affected. This could be due to the menopausal effects on vasculature in females. But the elderly have an increased prevalence with 65.6%.

Limitations of the study

This being a population study, the working group who is with good amount of stress is missed and so the prevalence might be underestimated. About 37.7% of the males and 31.5% of the females were hypertensive. But, of all the hypertensives, 64.3% were females. This gives a highly gender biased information.

Recommendations

Regular blood pressure check-up 6 monthly after the age of 30 years irrespective of gender. Women above 50 years should have their blood pressure checked more often.

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