

Health Problems of the Elderly: Cross-Sectional Study in a Rural Population in Kerala

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ABSTRACT

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Background: During old age, various health problems adversely affect an individual's life and put the public health system in strain.

Aims: To estimate self reported chronic health problems of the elderly in a rural population in Kerala and to find out whether there are any gender related differences in these.

Subjects and Methods: A community-based, house to house survey of elderly persons (aged over 60 years) in a village in the field area of a teaching hospital was carried out. Information on their self reported medical problems (Help for Activities of daily life -ADL, Behaviour problems, Hearing and vision impairment, Incontinence, Vertigo Stroke, Falls, sadness, Alcohol use, Pan chewing, smoking) were collected. Results were analyzed in terms of proportions and percentages. Associations were explored with odds ratio (OR) and 95% confidence intervals (CIs).

Results: Elderly persons constituted 13.03% [2728/20,942] of the entire population. Data was obtained from 99.41% (2712/2728) of them. Mean age was 68.59 (+ 7.78). 55.68% (1510/2712) were females. Self reported prevalence of diabetes mellitus was 27.31% [410/1501] among females and 31.25% (374/1195) among males. Prevalence of hypertension was 50.86% (768/1501) among females and 35.11% (422/1195) among males (OR 1.9131, 95%CI 1.6375-2.2352, p<0.0001). All health problems except stroke were significantly more prevalent among women. Alcohol use was less frequent among females (6/1510; 0.40%) compared to males (170/1202; 14.14%) (OR 0.0242 95%; CI 0.0107-0.0549; p= <0.0001).

Conclusions: A rural cohort of elderly persons in Kerala had a high prevalence of chronic non-communicable diseases such as hypertension, diabetes, falls, impairment of ADL, sadness. Females were particularly more vulnerable to these. This coupled with the greater number of women in the elderly population calls for interventions focussing more on this segment of population.

Keywords: Elderly, Health problems, Rural population, Kerala

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INTRODUCTION

Elderly population contributed to 7% of total population of India in 2001 and is expected to rise to 9% by 2016.¹ While in 2010, 100 million people were aged above 60 years, by 2020 it is estimated to be 177 million.¹ Increase in the number of frail old people with varying levels of functional impairment would pose special challenges to the health system. As this segment of population needs more care and support, cost of health care could rise. This would be more pronounced in states like Kerala which already spends a considerable share of government revenue on health and education.² Prevalence of non-communicable diseases [NCD] like hypertension and diabetes mellitus has been found to be more in the elderly.³ As

the life span of females is more than males, elderly women usually outnumber men in that segment of population.² Hence the consequences of aging are expected to be more for females. Definite strategies are needed to address the health issues related to aging of the population. As a first step, we need to know about the prevailing health problems among the elderly. Only limited information is available about the health problems of the elderly, particularly from rural areas. So we planned a study to find out the prevalence of major chronic and disabling conditions among elderly in a rural population in Kerala.

METHODS

This was a community-based study, consisting of

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house to house survey of all people aged 60 years and above in Thalikulam Grama Panchayath. Thalikulam Grama Panchayath is situated in the coastal belt of Thrissur district and had a population of 24190 as per 2001 census. There are 15 wards in the Panchayath. A health data card which could help to identify specific health needs of the entire population was prepared. Nearly 40 Community health workers (CHW) were identified and trained for the survey. They were expected to be the actual links with the households. The information collected by CHW was entered into the data card. The Data card contained questions about age, sex, occupation, dietary habits, details of associated illnesses, awareness of hypertension, and details of treatment of hypertension and diabetes. The survey was completed within a period of nine months in 2009. A brief discussion on the importance of regular BP check up, risk factors for the development of high blood pressure and complications related to hypertension was done with each household by CHW. Elderly persons were identified from this data and their health problems were analyzed.

RESULTS

The elderly constituted 13.03 % [2728 /20,942] of the population. Among them, the information could

Health problems	Number	Frequency (in percentage)
Help needed for bathing	130	4.79%
Help needed for dressing	102	3.76%
Help needed for Excretion	103	3.80%
Help needed for Walking	146	5.38%
Behaviour problems	59	2.18%
Hearing impairment	404	14.90%
Visual impairment	1863	68.69%
Incontinence	66	2.43%
Vertigo	662	24.41%
Stroke	89	3.28%
Falls	174	6.42%
Sadness	133	4.90%
Alcohol use	176	6.49%
Pan chewing	77	2.84%
Smoking	291	10.73%
Diabetes	784	28.87%

Table 2. Gender difference in prevalence of self reported health problems of elderly in Thalikulam Gramma Panchayath, Kerala

	Females n=1510		Males n=1202		Odds ratio	*CI 95%	P value
Hypertension	768 50.86 %	742 49.14 %	422 35.11 %	780 64.89 %	1.91	1.64- 2.24	<0.0001
Falls	135 8.94 %	1375 91.06 %	39 3.24 %	1163 96.76 %	2.93	2.03- 4.22	<0.0001
Help needed for bath	92 6.09 %	1418 93.91 %	38 3.16 %	1164 96.84 %	1.99	1.35- 2.92	0.0004 4
Help needed for walking	103 6.82 %	1407 93.18 %	43 3.58 %	1159 96.42 %	1.97	1.37- 2.84	0.0002
Vertigo	475 31.46 %	1035 68.54 %	187 15.56 %	1015 84.44 %	2.49	2.06- 3.01	<0.0001
Stroke	44 2.91 %	1466 97.09 %	45 3.74 %	1157 96.26 %	0.77	0.51- 1.18	0.23
Hearing impairment	244 16.16 %	1266 83.84 %	160 13.31 %	1042 86.69 %	1.26	1.01- 1.56	0.039
Incontinence	51 3.38 %	1459 96.62 %	15 1.25 %	1187 98.75 %	2.77	1.5476- 4.9443	
Visual impair- ment vision	1086 71.92 %	424 28.08 %	777 64.64 %	425 35.36 %	1.40	1.1902- 1.6491	<0.0001
Behavioral problems	42 2.78 %	1468 97.22 %	17 1.41 %	1185 98.59 %	1.99	1.1294- 3.5215	0.015
Sadness	102 6.75 %	1408 93.25 %	31 2.58 %	1171 97.42 %	2.74	1.8172- 4.1208	<0.0001

*(CI 95% -95% confidence interval)

be collected from 2712 persons (The coverage being 99.4 %). Mean age was 68.59 (\pm 7.78); There were 1510 [55.68%] females and 1202 [44.32%] males. The prevalence of self reported health problems are shown in Table 1.

Prevalence of diabetes was 27.31% (410/1501) among females and 31.25% (374/1195) among males. The diabetic status was not known in 18 patients. Prevalence of hypertension was 50.86% (768/1510) among females and 35.11 % (422/1202) among males (OR 1.9131,95 %CI 1.6375-2.2352, p<0.0001). All health other problems except stroke were significantly more prevalent among women (Table 2). Alcohol use was less frequent among females (6/1510; 0.40 %) compared to males (170/ 1202; 14.14 %) (OR 0.0242 95%; CI0.0107-0.0549; p= <0.0001).

DISCUSSION

Developed countries have accepted an age of 65 years for a definition of ‘elderly’ or older person. This definition is arbitrary. The United Nations have suggested 60+ years, to refer to the older population.⁴ The Government of India has defined elderly or senior citizens as persons aged 60 yrs or above in its National policy on Older Persons in 1999. According to the Indian census in 2001, elderly population constituted

7.4% of total population (7.4% of females and 7.8% of males).⁵ Kerala's 60-plus population constituted 5.1 per cent of the total population in 1961. This was less than the National figure of 5.6 per cent. In 2001, this has risen to 10.5 % compared to a corresponding national figure of 7.5%. As per 2011 census, 32.83 % [1,024,794/] of the population of Thrissur district lives in rural areas. In Thalikulam Grama Panchayath, elderly population constituted 13.03% of the total population.

The finding of this study that the majority (55.68%) were females is in contrast to the national sex ratio of the aged in which only 48.2% of elderly persons are females,⁶ but consistent with a higher female to male ratio in general population in Kerala. This may be due to better survival rate among women. Male predominance among elderly population is seen only in a few countries like India.

The common health problems among Elderly identified were Hypertension, diabetes mellitus, visual problems, hearing impairment, incontinence and difficulty in activities of daily life. An Indian Council of Medical Research (ICMR) report on the chronic morbidity profile in the elderly found hearing impairment as the most common morbidity followed by visual impairment.⁷ But in the elderly population of Thalikulam, visual impairment was found to be more common than hearing impairment. A study conducted in the rural area of Pondicherry found decreased visual acuity due to cataract and refractive errors in 57% of the elderly and hearing impairment in 15.4%.⁸ Hypertension, joint pain and visual impairment were the common problems in elderly rural population in Varanasi.⁹

Prevalence of hypertension in this study was 43.88%. A community based study across all ages in Trivandrum had reported that nearly 30 per cent of individuals had high blood pressure,¹⁰ In a study among the elderly in rural Malaysia prevalence of hypertension was found to be 54.5%,¹¹ while in a rural elderly population in Salem, it was 59%.¹ Prevalence of diabetes mellitus in the study group was 28.87% (783) with 27.31% (410/1501) in females and 31.25% (374/1195) in males while in the Trivandrum rural population it was 22%,¹⁰ and in Salem it was 22% for males and 15% for females.¹

Interesting sex-related differences in the health problems were seen in this study. Except for alcohol intake and tobacco use, most other health problems like hypertension, falls, impairment of ADL, sadness were

more common among women. Prevalence of hypertension among males was 33.3% compared to 26.2% among females in a study from Salem¹ while in our prevalence of hypertension was 50.86% (768/1510) among females and 35.11 % (422/1202) among males.

The prevalence of stroke was 2.91% (44) in males and 3.74 % (45) in females (p 0.23) while that of diabetes was 27.31% [410/1501) in females and 31.25% (374/1195) in males. A previous study conducted among rural population in Trivandrum had reported a lower prevalence of hypertension and diabetes mellitus among females compared to men.¹⁰ A cross sectional study from Udupi had reported an increased prevalence of hypertension in females compared to males while the prevalence of Diabetes mellitus was similar in both groups.¹² Prevalence rates of diabetes and hypertension in this study was higher compared to most other studies. This study had some limitations. As most of the problems are self reported, there is a possibility that these could be affected by subjective factors and hence prone for inaccuracy. It is possible that several persons could be unaware of various medical conditions, especially conditions like diabetes mellitus and hypertension which could be asymptomatic in many. However information about impairment of daily functions is more likely to be accurate. Secondly, since the information was gathered by CHW there could have been a higher chance for errors in identification and reporting of problems.

At the same time, as CHW were from the local community, it would have also resulted in less apprehension among the participants of the survey which could improve the reliability of their responses.

However a high coverage of the target population is a major strength of the study. Besides, unlike most of the clinic based studies, the findings obtained from the community offer distinct advantages. More follow up studies in the same community with more reliable tools could be valuable. Similarly studies on the groups which are screened positive by the survey also could be beneficial in the future.

Health status of older women has been hardly a major public health problem. With an increasing number and percentage of elderly population and higher life expectancy for females, issues concerning elderly women cannot be ignored any longer. Public health interventions among elderly should provide special attention to females.

END NOTE

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Conflict of Interest: None declared

Editorial Comments:

The Elderly form an important segment of the population for many reasons. The care of the elderly forms an important activity for IMA. This original article gives valuable original data from the field for proper planning of this activity. More of these type studies will throw light on several pressing problems affecting our society.

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