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Original Research Article

Prevalence of health morbidity and health seeking behavior among elderlies in rural Kerala

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ABSTRACT

Background: Population ageing has profound social, economic and political implications for a country. The increasing number of older persons put a strain on health care and social care systems in the country. Old age comes with lot of ailment and diseases. Kerala's elderly population proportion is higher than that of India. The objectives of this study were to estimate the prevalence and type of health morbidities among elderlies, in rural area.

Methods: We conducted a community-based cross- sectional study in rural area of Palakkad district of Kerala from September to October 2017 among 396 randomly selected elderlies. The data was collected by 3rd year, MBBS students using pretested, semi structured questionnaire. The medical records were reviewed by students. Data were entered and analysed using Microsoft Excel 2016 version.

Results: Out of 396 elderlies, the self-reported prevalence of health morbidities was 91.6%. Out of 361 elderlies with morbidities, 30% had atleast one morbidity and rest had multiple morbidities. The most common self-reported morbidities were hypertension (42.4%), loss of the natural teeth (40.2%), arthritis (38.1%), diabetes (34.8%), cataract (29.5%), asthma (9.1%), angina (8.3%), history of injury (7.3%) and history of recent surgeries (41.2%) in past. More than 90% of elderly diagnosed with lifestyle diseases were on treatment.

Conclusions: The prevalence of non-communicable lifestyle related diseases and degenerative diseases is high among elderlies and is the major burden of disease. The elderlies had good treatment seeking behaviour towards non communicable diseases. However, needs improvement in treatment seeking behaviour of degenerative diseases.

Keywords: Elderly, Health, Morbidity, Kerala, India

INTRODUCTION

As fertility declines and life expectancy rises, the proportion of the population above a certain age rises as well. This phenomenon, known as population ageing, is occurring throughout the world. Thus, globally, population aged 60 years or over is growing faster than all younger age groups. In 2017, there were an estimated 962 million people aged 60 or over in the world, comprising 13 per cent of the global population. The population aged 60 or above is growing at a rate of about 3 per cent per year.[1]

Taken together, just five countries—China, India, the United States, Japan and the Russian Federation—accounted for half of the world's population aged 60 years or over in 2015.[2] The United Nations (UN) defines a country as "Ageing" or "Greying Nation" where the proportion of people over 60 reaches 7 percent to total population. By 2011 India has exceeded that proportion (8.0 percent) and is expected to reach 12.6 percent in 2025.[3]

Population ageing has profound social, economic and political implications for a country. The increasing number

of older persons put a strain on health care and social care systems in the country. Old age comes with lot of ailment and diseases. In case of large number of elderly persons in the population, the country needs more and more health and medical services, facilities and resources. Government spending on health care is increased with the increase of average age of population. Kerala's elderly population is 12.6 per cent and is growing at a perpetual rate of 2.3 per cent. Kerala's elderly population proportion is higher than that of India.[4,5] Thus, understanding the health status of the aging population in Kerala is essential not only to those who comprise this age group, but also to the broader population because of the impacts on social and economic systems is critical for planning health care services and social support systems, and for designing health policies and programs to benefit this specific age group. The objectives of this study were to understand the socio-economic status, prevalence and type of health morbidities among elderly population, in the rural area of Kerala.

METHODS

Study area

We conducted a community-based cross- sectional study in rural area of, Ottapalam block of Palakkad district of Kerala from September to October 2017. As per census 2011, the total of 3813 families were residing here, has population of 15,965.

Sample size and sampling

The formula used for determining the sample size was n = $z^2$1- α/2 (1-P) / ε^2P. With an anticipated prevalence of morbidities in elderlies to be 50% and a relative precision of 10% and 95% Confidence Interval, the sample size worked out to be 384. The data was collected from all the wards (far and near). Total of 396, slightly more than actual sample size, to ensure the equal distribution of houses among the students. Simple random sampling technique was followed to select the houses.

Inclusion criteria

Any individual aged 60 years and above in the community was considered as elderly. Elderly, who gave consent to participate were included in study. Only one elderly was interviewed for data collection from each household.

Exclusion criteria

Individual less than 60 years. Elderly who were bed ridden and having dementia were excluded from the study. Second elderly from the same family was excluded for data collection.

Data collection

Face to face interviews were conducted after taking the oral consent of the participants, using pre tested semi - structured questionnaire. The medical students collected data on sociodemographic characteristic, income status and health morbidities among elderlies. The self -reported morbidities were cross-checked with prescriptions or any other clinical records available at the household level. All the students could communicate in Malayalam with the elderlies. The data collected was later entered in Microsoft excel sheets for analysis.

RESULTS

The mean age of the elderly enrolled in the study was 68 years and median age was 67 years. On an average there were 4 family members in each household of the elderly.

Table 1: Sociodemographic profile of elderly people.

Sociodemographic profile	Male n=144 (%)	Female n=252 (%)	Total n=396 (%)
Educational qualification			
Illiterate	10 (6.9)	51 (20.2)	61 (15.4)
Primary to high school (1-10)	105 (72.9)	178 (70.6)	283 (71.4)
Higher secondary (11-12)	7 (4.9)	12 (4.8)	19 (4.8)
Graduation	20 (13.9)	10 (4.0)	30 (7.6)
Post-graduation	2 (1.4)	1 (0.4)	3 (0.8)
Employment status			
Retired	51 (35.4)	17 (6.7)	68 (17.2)
Unemployed /Home makers	25(17.36)	208 (82.5)	233 (58.8)
Govt. Employee	3 (2.08)	3 (1.2)	6 (1.5)
Private employee	23 (15.97)	11 (4.4)	34 (8.6)
Others (farm worker, own shops)	42 (29.17)	13 (5.2)	55 (13.9)
Current marital status			
Never married	4 (2.8)	19 (7.5)	23 (5.8)
Married	129 (89.6)	85 (33.7)	214 (54.0)
Separated or divorced	0 (0)	1 (0.4)	1 (0.3)
Widow/ widower	11 (7.6)	147 (58.3)	158 (39.9)

Continued.

Sociodemographic profile	Male n=144 (%)	Female n=252 (%)	Total n=396 (%)
Source of Income for Elderly			
Receive pension	62 (43.1)	101 (40.1)	163 (41.2)
Still working	24 (16.7)	23 (9.1)	47 (11.9)
Receive financial support from children	36 (25.0)	128 (50.8)	164 (41.4)
Others (help from relatives)	22 (15.3)	0 (0.0)	22 (5.6)
Ownership of House			
Own house	137 (95.14)	238 (94.4)	375 (94.70)
Rented house	4 (2.78)	13 (5.2)	17 (4.29)
Others (relative's)	3 (2.08)	1 (0.4)	4 (1.01)

The mean income of the elderly was around Rs. 5168 per month. The mean income of the elderly men (Rs. 7243) was higher than elderly women (Rs. 4002). Majority 283 (71.4%) of the elderly were educated and only 15.4% being illiterate (Table 1).

Table 2: Prevalence of health morbidities.

Number of health morbidities (count)	Number of elderlies with morbidities (n=396)	Percentage
1	120	30.3
2	93	23.5
3	86	21.7
4	39	9.8
5	18	4.5
6	3	0.8
7	2	0.5
Total	361	91.2

Majority (54%) of the elderly were married and staying with their spouses, 40% of the elderly had lost their spouse.

A large number (53%) of the elderly reported to have own source of income and only 41.4% received financial support from their children and others. Most of them (94.7%) of them were staying in their own houses.

Prevalence of self- reported chronic morbidity

Out of 396 elderlies, 361 (91.6%) had suffered from atleast one health morbidities. Out of 361 elderlies with morbidities, 30% had atleast one morbidity and rest all others had multiple morbidities. (Table 2)

Among the self-reported co-morbidities, majority (42.4%) reported that they have hypertension and followed by loss of the natural teeth (40.2%), arthritis (38.1%), Diabetes 34.8%, cataract (29.5%), asthma (9.1%), angina (8.3%), history of injury (7.3%), depression 0.5% and Chronic obstructive lung disease (COPD) 3% and 41.2% reported to have history of recent surgery (inguinal hernia, appendicectomy, neurosurgery, cataract, renal stone calculi removal and heart valve replacement etc.) in the past (within one year of data collection).

Table 3: Prevalence of self- reported morbidities and treatment seeking behaviour among elderly.

S. no	Type of morbidities reported by Elderly	Male n=144 (%)	Female n=252 (%)	Total n= 396 (%)	Treatment (Male + Female) N (%)
1	Arthritis/Pain in Joints	35 (24.3)	116 (46.1)	151 (38.1)	75 (49.7)
2	Angina	13 (9.0)	20 (7.9)	33 (8.3)	30 (90.9)
3	Diabetes	55 (38.1)	83 (32.9)	138 (34.8)	128 (92.8)
4	Hypertension	57 (39.5)	111 (44.0)	168 (42.4)	154 (91.7)
5	COPD	8 (5.5)	5 (1.9)	13 (3.3)	9 (69.2
6	Asthma	31 (21.5)	5 (1.9)	36 (9.1)	26 (72.2)
7	Depression	0 (0)	2 (0.7)	2 (0.5)	1 (50)
8	Cataract	37 (25.6)	80 (31.7)	117 (29.5)	38 (32.5)
9	Natural Loss of teeth	46 (31.9)	113(44.8)	159 (40.2)	2 (1.3)
10	History of injury	12 (8.3)	17 (6.7)	29 (7.3)	9 (31)
11	History of surgery*(including cataract surgery)	55 (38.1)	108 (42.8)	163 (41.2)	20 (12.3)

Continued.

S. no	Type of morbidities reported by Elderly	Male n=144 (%)	Female n=252 (%)	Total n= 396 (%)	Treatment (Male + Female) N (%)
12	History of other Co -morbidities (Hypothyroidism, hyperthyroidism, cancer inguinal hernia etc)	26 (18.05)	41(16.2)	67 (16.9)	49 (73.1)

The treatment seeking behaviour of elderlies was good, as more than 90% of elderlies were diagnosed to have hypertension, diabetes, angina and were on treatment. Approximately, 70% of asthmatic and 73.1% with other comorbidities (like gastritis, cancer of pancreases, stroke, chronic kidney disease, epilepsy, hearing loss and hypothyroidism) were on treatment. (Table 3). However, less than 50% with arthritis/ pain in joints and 1.3% with loss of teeth were seeking treatment.

DISCUSSION

In this study we found that, elderlies in the village had high prevalence of multiple co-morbidities. The socio-economic status and literacy level were high among elderlies in Kerala.

In our study, more than 50% of elderly were economically independent for their livelihood and only one forth were dependent on children and other financial means of survival. According to National Sample Survey 60th round, approximately 76 to 78% had to depend on their children and others for their economic support.[7] Similar study done in Nepal, indicate that the elderly people were independent and employed; the percentage of the people living with their families and still holding the status of head of the family was found to be high. In Nepal, most prevalent geriatric problem was a dental problem 61%, visual difficulty (53%) and hearing problems (43%). Prevalence of these disorders were lower in our study. These differences could have been because of difference in sample size, methodology of data collection and availability and utilization of health services in Nepal and Kerala. In our study many participants had undergone cataract surgery.[8]

The findings of our study are discorded compared to, Study on global AGEing and adult health (SAGE), done in India. The prevalence of diabetes, arthritis, hypertension, cataract, loss of natural teeth was high in our study compared to SAGE study. However, in our study the prevalence of self-reported angina was 8.3%, which is less than half of the nationally reported data of SAGE study (20%). This difference may be because many elderlies with angina had taken treatment (angioplasty and surgery) in recent past in our studies.[9] A similar study, done among elderly in Panvel Maharashtra (2018) also found the majority of elderly were suffering from hypertension, joint pain, hearing impairment and diabetes mellitus.[10] Among the urban slums of Delhi, the prevalence of diabetes was 18.8% and was higher among women. and two-thirds of these were on treatment and three-fourths of those on treatment had controlled fasting blood sugar level. However, the prevalence of diabetes (34.0%) in our study, even though being rural area was approximately twice that of Delhi study.[11] These differences could have been because of differences in diet pattern and level of physical activity of elderlies.

Studies done in the eastern part of India, Kolkata, also found that most of the elderly were having multiple morbidities (87.98%). However, the commonest problem detected was visual impairment with prevalence of 75.96% followed by hypertension (68.75%) and auditory, musculoskeletal, urinary, cardiac diseases.[12] The prevalence of these morbidities in Kolkata were very high compared to our study, indicating better health seeking behaviour of elderly and availability of health services in rural Kerala.

In our study, the prevalence of injury / fall was 7.3%, 5 times lesser as compared to the studies done in the north India, rural Haryana (36.6%).[13] This difference in the prevalence might be because of better socio-economic status and health seeking behaviour of our participants compared to Haryana, as majority of elderlies in our study had undergone the cataract surgery, and had better vision. As poor vision is one of the reasons for falls. However, the prevalence of fall, in Community-based cross-sectional study conducted by Chacko et al. among 655 rural elders in Tamil Nadu, was 26%. This is more than three times higher than finding of our study.[14]

However, findings of our study are very similar to study done in Udupi district of Karnataka, the most common health problems were hypertension, osteoarthritis, diabetes, or bronchial asthma and cataract. It was observed that most of the respondents had more than one health problem. Osteoarthritis was found to be more common among females while other health problems were almost similar among both the genders. In our study, similar gender differences were seen in the prevalence of arthritis.[15]

However, government of Kerala, has taken the initiatives for special care of elderly's, like Vayomithram scheme to provide health care and support to elderly residents (65plus) in the corporation/municipal areas. Aswasakiranam, scheme to provides financial support (₹ 525 per month) to bedridden and mentally challenged patients, their families and primary caregivers. Kerala Police Janamaithri Suraksha, to provide protection of senior citizens. Kudumbashree is a community-based poverty reduction and women's empowerment initiative in

Kerala with significant scope for direct and indirect benefits to the elderly. Kerala has also developed a powerful community-based palliative care model mostly availed of by very old persons during final stages of their lives.

This is the first community-based study on elderly in this village. This study helped students, faculty and hospital management to understand the health needs of the elderly. The reported co- morbidities were verified by the presence of medical records, prescriptions and the drugs available at home of the elderlies. The elderly also had a general check-up at home by the medical students. The findings of the study can be generalised as all the wards of the village were sampled. To improve the health seeking behaviour of elderlies towards degenerative diseases, we recommend Vayomithram scheme can be extended in rural areas of Kerala.

Limitations

Information regarding various health schemes and social schemes utilized by elderly could have been collected.

CONCLUSION

The socio- economic condition of elderly in this rural area is better as majority are staying in their own houses and majority are economically independent. However, the prevalence of morbidity and particularly of multiple co-morbidities is very high. The prevalence of non-communicable lifestyle related diseases and degenerative diseases is high comprising the major burden of disease. The elderlies had good treatment seeking behaviour towards non communicable diseases. However, treatment seeking behaviour towards the degenerative diseases needs attention.

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