

Original Research Article

Socio-demographic and morbidity pattern of geriatric population in rural area of Puducherry: a community based cross sectional study

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ABSTRACT

Background: Ageing leads to lower effectiveness of physiological functions accompanied by increase in risk factors for various diseases and on the other hand, the burden of their health problems is on rise. Understanding the morbidity pattern and social determinants of the elderly pave a way to plan and supplement health programs that are need based and locally acceptable. Objective was to assess the socio-demographic determinants and the morbidity pattern among geriatric population of rural Puducherry.

Methods: A community based cross-sectional descriptive study was conducted among the geriatric population residing in selected areas of rural Puducherry. Interviews using semi-structured pretested proforma were conducted for capturing information on socio-demographic variables and morbidity patterns.

Results: Around 71.69% receive social assistance in any form. The most common morbidities present among the study participants were arthritis (31.35%), hypertension (22.66%) and diabetes mellitus (16.59%).

Conclusions: There are considerable health problems due to old age among elderly, so regular screening required early in life for ensuring healthy ageing.

Keywords: Ageing, Elderly, Geriatric care, Morbidity

INTRODUCTION

Life expectancy of human population has increased tremendously in the last century due to improved social welfare measures and advancement in the health care system. This trend causes more old age people in the population which gives a new dimension of health problems.¹ Elderly or old age consists of ages nearing or surpassing the average life span of human beings and they rapidly form a large chunk of the population.² The current fact is that the global as well as Indian demographic structure is shifting towards a higher proportion of elderly in population. The age distribution of population has changed and will continue to change radically, due to long term declines in fertility rates and improvements in mortality rates. This transformation, known as 'demographic transition' is accompanied by an

epidemiological transition. Population ageing entails an increase in share of older persons in the population and is a major global demographic trend which would intensify during the twenty-first century.³ The projection of older people has a higher degree of certainty than that of younger age groups, because all the individuals older than 60 years in 2050 depends solely on attrition due to mortality, which entails a much smaller origin of uncertainty than the projection of fertility. The stages and speed of ageing are quite different between the more and less developed regions.⁴

Studies done in rural areas of India and Worldwide have shown that morbidity is high among the elderly. Therefore elderly are one of the most vulnerable and high risk groups in terms of health status in any society. Despite a great deal of development in the field of

medicine, in the form of better and more accurate investigations, new therapies and various path breaking discoveries, experts are of the opinion that greatest improvement in health will be brought about by behavioural changes. Health status in general, and morbidity, in particular, are primarily influenced by behavioural decisions of individuals or families, besides genetically inherited health endowments and the health environment in which they reside. Thus, illness is not a random event, but one that is systemically related to household and community level factors.⁵⁻⁷

Hence the current study was undertaken to assess the socio-demographic determinants and morbidity pattern among geriatric population of rural Puducherry. This information will help us to plan how to utilize locally available resources for health care effectively and to supplement health programs that are need based and locally acceptable.

METHODS

Study design and study setting

A community based cross-sectional descriptive study was conducted among the geriatric population residing in selected areas of rural Puducherry. This section of research is a part of a dissertation.

The study was conducted in 3 rural health centres catering to field practising area of Sri Lakshmi Narayana institute of medical sciences, Puducherry.

Study population

The study participants were from the four randomly selected villages (Kumarapalayam, Vazhuthavur, Mutrampattu-Kodathur and Thethampakkam) catering to the rural field practising area of Sri Lakshmi Narayana Institute of Medical sciences, Puducherry.

Study duration

The data collection was carried out over a period of year from August 2014 till July 2015.

Sample size

The minimum sample size was calculated to be 629 which was calculated assuming prevalence of health seeking behaviour among the elderly as 71.78% absolute precision of 5%, 95% confidence interval (5% alpha error) and 5% non-response rate.⁸

Inclusion criteria

Elderly people residing in the study area for at least one year preceding the date of survey and those elderly who gave consent to participate in the study.

Exclusion criteria

Elderly people who not willing to participate in the study for their own measures and elderly people who are seriously ill or unable to give information.

Study procedure and study tool

A house to house survey was conducted using a semi-structured pretested questionnaire for capturing information on socio-demographic variables, risk factors and morbidity pattern from the selected study participants. The proforma was pretested among 50 patients before the study, who were not part of the main study. The study participants were interviewed in their households regarding the pattern of morbidities, their health seeking behaviour and improvement of health after the treatment.

Ethical approval

The study was approved by the Institutional Human Ethics Committee, Puducherry.

Data entry and data analysis

Data was entered in Microsoft excel and analyses were carried out using SPSS v16.0. Proportions were used to summarize categorical variables. Chi square test was used to compare proportions and p value <0.05 was considered as statistically significant.

RESULTS

In our field practicing area, the total population is 21,467 in 8 villages. The total number of elderly in these villages is 1975. Among them, randomly 4 villages were chosen with a population of 656 to cover the minimum calculated sample size of 629. The total number of elders participated were 622. Eight persons did not give consent to participate in the study. The rest 26 were not included, as they have died before the onset of the study, as the total census of study was available for 2012 only.

Table 1: Age-sex distribution of the study population (n=622).

Age groups (years)	Gender		Total n (%)
	Male	Female	
60-69	140 (56.45)	232 (62.03)	372 (59.81)
70-79	77 (31.05)	101 (27.01)	178 (28.62)
≥80	31 (12.50)	41 (10.96)	72 (11.57)
Total	248 (39.9)	374 (60.1)	622 (100)

*The "Total" row depicts row percentages, others are column percentages

Majority 372 (59.81%) were belonging to the age group of 60-69 years (Table 1).

Table 2:- Socio-demographic characteristics of the study population (n=622).

Characteristic	Number (%)
Marital status	
Single	1 (0.16)
Married	381 (61.25)
Widow/Divorced	240 (38.59)
Type of family	
Nuclear	443 (71.22)
Joint	179 (28.78)
Educational level	
Illiterate	391 (62.9)
Primary	155 (24.9)
Secondary and higher secondary	70 (11.2)
Graduate/Postgraduate	6 (1)
Types of social assistance received	
Old age pension	263 (42.28)
Widow pension	173 (27.81)
Retirement pension	7 (1.12)
Others	3 (0.48)
Nil	176 (28.3)
Socio-economic status*	
Upper class	15 (2.41)
Upper middle class	59 (9.49)
Middle class	149 (23.95)
Lower middle class	278 (44.7)
Lower class	121 (19.45)
Dependency status	
Fully	304 (48.87)
Partially	160 (25.72)
Independent	158 (25.41)

Among the 622 study participants who were interviewed, majority (44.7%) belonged to the lower middle socio-economic class. Vast majority (71.22%) were living in nuclear type of family and nearly three-fourths (61.25%) were married. Almost half of the elderly were fully dependent on their family members financially (Table 2),

Table 3: Health risk behaviour of the study population (n=622).

Risk behaviour	Male (N=248)	Female (N=374)	Total (N=622)
Smoking	75 (30.24)	0	75 (12.05)
Alcohol	80 (32.26)	0	80 (12.86)
Betel nut chewing	42 (16.94)	185 (49.47)	227 (36.5)
Nil	51 (20.56)	189 (50.53)	240 (38.59)

Around 30.24% and 32.26% of the elderly males were smokers and alcoholics respectively (Table 3),

The most common morbidities present among the study participants were arthritis (31.35%), hypertension (22.66%) and diabetes mellitus (16.59%) (Table 4).

Table 4:- Morbidity pattern of the study population (n=622).

Morbidities	Frequency (%)
Arthritis	195 (31.35)
Hypertension	141 (22.66)
Diabetes mellitus	103 (16.59)
Cataract	96 (15.43)
Bronchial asthma	14 (2.25)
Ischemic heart disease	8 (1.29)
Hyperlipidemia	6 (0.96)
Anemia	5 (0.8)
Cerebrovascular disease	4 (0.64)
Chronic kidney disease	4 (0.64)
Tuberculosis	4 (0.64)
Peptic ulcer disease	4 (0.64)
Others	24 (3.86)
Nil	14 (2.25)
Overall	622 (100)

DISCUSSION

The present study was conducted to capture the socio-demographic determinants and the pattern of morbidity among the elderly people in rural population of Puducherry. A total of 622 elderly people were interviewed from 4 villages under the service area of Rural Health Training Centre of Sri Lakshmi Narayana Institute of Medical Sciences at Kumarapalayam, Rural Puducherry District. Most of the elderly in the study population were in 'young old' i.e. 60%, another 29% in 'old old' and the 'oldest old' was 12%. This proportion is similar to census 2011 of Puducherry district as well as a study conducted by Narapureddy et al and Karmakar et al which projected as 59.6% and 60% young old.⁸⁻¹⁰ In this study the gender distribution is favouring females (60.1%) compared to males (39.9%) which are almost similar to a study conducted by Moe et al.¹¹ The sex ratio in Puducherry is 1037 i.e. for each 1000 male, which is above national average of 940 as per census 2011.⁹ The sex ratio is more pronounced among the elderly in this study due to difference in the increased life expectancy among females compared to males.

In the current study, 61.2% of the elderly were married which is similar to studies by Narapureddy et al and Muralidhar et al.^{10,12} Overall, 38% of them are either widow or widower. This is probably due to men marry women who are having a huge (4-10 years) age difference in India and further the increased difference in life expectancy among women in India.

The present study also has found that 92% of the elderly people were living with at least one family member which is almost similar to a study done by Ladha et al 90.2% and 62% were financially dependent on children and also females were more dependent than males which is higher than 53.3% by the Report on the status of elderly in select states of India, 2011.^{13,14} The health risk behaviour was

found more in the young old in this study. Among the elderly interviewed, 60% of them had given positive history regarding current usage of risky health behaviour such as smoking, alcohol and betel nut chewing. However, in gender difference exists. None of the elderly women either smoke tobacco or consume alcohol currently. However, 30.2% and 32.3% of elderly men use tobacco and consume alcohol, respectively which is similar to Bourne et al.¹⁵ Remarkably, 49.5% of elderly women currently have the habit of betel nut chewing.

CONCLUSION

It is observed that there is considerable health problems due to old age among elderly people are more prevalent, this issue makes economic burden on the elderly people and also on the family. We have few recommendations. Elderly people are lacking in financial support for their health problems which to certain extent are overcome by old age insurance. Primary health centres should conduct special health camps at least once in a month in each village to help the elderly, especially suffering from chronic ailments.

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Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Human Ethics Committee, Puducherry

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