Research Article

A cross-sectional study on morbidity and disability among the geriatric age group in select urban slums

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Abstract

Background: Functional health status greatly influences quality of life at old age. Population-based data on health problems, functional status, behavioral risk factors, health care use, and social circumstances are imperative for public health intervention with elderly people. Lack of infrastructure amplifies the morbidity and disability among the elderly, especially in slums, because of additional factors such as poverty, poor hygiene, and lack of awareness. As a result, health problems such as cataract, hypertension, diabetes mellitus, osteoarthritis, emotional problems, insomnia, and hearing defect are prevailing among them.

Objective: To characterize the morbidity and disability of the elderly population living in the slums of Shimoga, Karnataka.

Materials and Methods: A cross-sectional community-based study was carried out among the elderly population in three slums located in the urban field practice area of Shimoga Institute of Medical Sciences. Data were collected from 460 elderly individuals by doing a house-to-house visit.

Results: Majority of the elderly people belonged to the lower socioeconomic strata. The habit of tobacco chewing was more compared to smoking. A higher number of both men and women consumed alcohol. Health service use was very poor. Approximately 90% of them did not seek services from the known health-care delivery services in case of illnesses. Awareness about the common health problems was more in men (74.7%) compared to women (43.4%). Chronic and noncommunicable conditions such as hypertension, musculoskeletal problems, cataract, and respiratory conditions were the commonly observed health problems.

Conclusion: The chronic noncommunicable diseases have been a major issue even among the people living in the slums. As the awareness about the common illnesses is poor, the challenge is to identify the reasons behind this and ensuring an increase in the levels of awareness as regards use of health-care services.

KEY WORDS: Elderly, urban slum, morbidity, disability

Introduction

The challenge ahead for health care in coming years is to ensure the quality of life to a large group of elderly population.

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The expected life projected in 2011–2016 has been 67 years for men and 69 years for women. United Nation has indicated that 21% of the Indian population will be above 60 years by 2050.[1] However, to address the health-care needs of this growing numbers of vulnerable and heterogeneous population, reliable information about their health problems from different social settings is still lacking in India. The number of elderly as per the 2001 Census in India was 7,66,22,321, that is, 7.5% of total population; out of which aged males were 37,768,327 (i.e., 7.1% of total population) and the aged females were 38,853,994 (i.e., 7.8% of total population). It has been estimated that by the year 2050, the number of elderly people would increase to approximately 324 million.[2]

Functional health status greatly influences quality of life at old age. Population-based data on health problems, functional status, behavioral risk factors, health care use, and social circumstances are imperative for public health intervention with elderly people. Variation may occur in the health and quality of life among different groups of elderly population even from the same geographical region due to these extrinsic factors[3,4] that need to be identified for properly addressing health needs of elderly. As the elderly people carry a greater burden of morbidity and disability, they account for a substantial proportion of health care spending. However, the socioeconomic infrastructure of India does not permit proper healthcare facilities for the increasing number of aging population. This lack of infrastructure amplifies the morbidity and disability among the elderly, especially in slums, because of additional factors such as poverty, poor hygiene, and lack of awareness. As a result health problems such as cataract, hypertension, diabetes mellitus, osteoarthritis, emotional problems, insomnia, and hearing defect are prevailing among them. The challenge for health care in coming years is to ensure the quality of life to a large group of elderly population living in substandard conditions.[5] Therefore, this study was taken up to characterize the morbidity and disability of the elderly population living in the slums of Shimoga, Karnataka, in terms of behavioral risk factors, socioeconomic status, and use of health services.

Materials and Methods

A cross-sectional community-based study was conducted among the elderly population (60 years and above) in three slums located in the urban field practice area of Shimoga Institute of Medical Sciences, Shimoga, Karnataka, from December 2012 to March 2013. The slums were selected by simple random sampling from a sample frame of 13. It was decided that data would be collected from all the households in the selected areas. The data were collected by doing house-to-house visits by the principal investigator and medical students posted to the Department of Community Medicine. The houses that were locked during the visit were excluded from the study. After taking the verbal consent, every elderly individual willing to be a part of the study was subjected to personal interview using a structured predesigned and pretested tool followed by general physical examination. The questionnaire included information on sociodemographic variables, behavioral factors (e.g., smoking, use of chewed tobacco, alcohol consumption), and past and present illness including information on use of health services. Diagnosis of diseases was made on the basis of clinical presentation, laboratory findings consistent with the specific disease, and treatment by the principal investigator. Standard definition of diseases was used for diagnosing health problems. Functional status of individuals was assessed in terms of their ability to perform seven important activities of daily living (ADL) without help, for example, dressing, transferring from bed, toileting or taking bath, preparation of food, eating, shopping, and walking. Height and weight of the study participants were measured using standard procedures.

Table 1: Important background characteristics of the study population

Characteristic	Study group (*n* = 460)	
	Men (%)	Women (%)
Age (years)		
60–70	80 (39.6)	96 (37.2)
71–80	42 (20.8)	80 (31.0)
81–90	42 (20.8)	64 (24.8)
>90	38 (18.8)	18 (7.0)
Sex	202 (43.9)	258 (56.1)
Socioeconomic status		
Lower	178 (88.1)	246 (95.3)
Upper lower	14 (6.9)	12 (4.7)
Lower middle	8 (4)	0 (0)
Upper middle	2 (1)	0 (0)
Upper	0 (0)	0 (0)
Smoking		
Current smoker	40 (19.8)	12 (4.7)
Nonsmoker	162 (80.2)	246 (95.3)
Chewed tobacco		
User	156 (77.2)	208 (80.6)
Nonuser	46 (22.8)	50 (19.4)
Alcohol		
Yes	146 (72.3)	180 (69.8)
No	56 (27.7)	78 (30.2)
Health service utilization		
Yes	24 (11.9)	14 (5.4)
No	178 (88.1)	244 (94.6)
Awareness about common illness		
Yes	151 (74.7)	112 (43.4)
No	51 (25.3)	146 (56.6)

The weight was measured using the standard weighing scale with minimum of clothes to the nearest of 100 g and height was measured using an anthropometric rod to the minimum of 0.5 cm. A body mass index (BMI) of <18.5 was considered as a cutoff point for undernutrition, whereas a BMI of >25 was considered as cutoff for obesity. The final study group consisted of 460 (202 men and 258 women) elderly individuals. Statistical analysis was carried out using SPSS software, version 14.

Results

Some of the important socioeconomic, demographic, and behavioral characteristics of study participants are given in Table 1. The median age for the study population was 67.5 (range: 60–92). Majority of them belonged to the lower socioeconomic strata of the society according to modified Kuppuswamy's classification. The habit of tobacco chewing was more compared to smoking. A higher number of both men and women consumed alcohol. Health service use was very poor. Approximately 90% of them did not seek services from the known health-care delivery

Table 2: Morbidity and disability in the study population

Morbidity/Disability	Study population (*n* = 460)		
	Men (%), *n* = 202	Women (%), *n* = 258	Total (%)
Hypertension	171 (83.2)	203 (78.9)	374 (81.4)
Cataract	60 (29.7)	92 (35.7)	152 (33.0)
Musculoskeletal problem	138 (67.6)	174 (67.4)	312 (67.5)
COPD	20 (9.9)	16 (6.2)	36 (7.8)
Respiratory illness	80 (40.0)	68 (26.4)	148 (32.2)
Diabetes	2 (1.0)	2 (0.8)	4 (0.9)
Stroke	16 (7.9)	2 (0.8)	18 (3.9)
Neurological conditions	36 (17.8)	26 (10.1)	62 (13.5)
Cancers	2 (1.0)	2 (0.8)	4 (0.9)
Pulmonary TB	0 (0)	4 (1.6)	4 (0.9)
Leprosy	2 (1.0)	2 (0.8)	4 (0.9)
Filariasis	4 (2.0)	0 (0)	4 (0.9)
Diarrhea	8 (4.0)	12 (4.7)	20 (4.4)
Skin infection	18 (9)	12 (4.7)	30 (6.5)
Other GIT problems	8 (4.0)	22 (8.5)	30 (6.5)
Injury due to fall	10 (5.0)	0 (0)	10 (2.2)
Eye conditions	14 (6.9)	18 (7.0)	32 (7.0)
Genitourinary problems	4 (2.0)	16 (6.2)	20 (4.4)
Undernutrition	114 (70.4)	182 (79.8)	296 (75.9)
Obesity	2 (1.2)	4 (2.8)	6 (1.5)
ADL disabilities	58 (28.7)	70 (27.1)	128 (27.8)

COPD, chronic obstructive pulmonary disease; TB, tuberculosis; GIT, gastrointestinal tract; ADL, activities of daily living.

services in case of illnesses. Awareness about the common health problems was more in men (74.7%) compared to women (43.4%).

Table 2 shows the prevalence of health problems among the elderly. Chronic and noncommunicable conditions such as hypertension, musculoskeletal problems, cataract, and respiratory conditions were the commonly observed health problems. It was found that 75.9% geriatric individuals were undernourished. Also, 2.6% of the individuals had either of the three infectious morbidities *viz*. tuberculosis, leprosy, or filariasis. Of them, 6.5% also had skin sores and 27.8% experienced problems in self-maintenance of ADL.

Discussion

If the increase in life expectancy has a downside, it is the exposure of risk to age-related chronic disorders.[6] As expected, the study shows that irrespective of place of living, aging is associated with higher burden of chronic and noncommunicable diseases and poorer physical functioning, which adversely affect the well-being of older people. The common health conditions of elderly were hypertension, musculoskeletal problems, cataract, chronic obstructive pulmonary disease (COPD), and other respiratory problems. Survey carried out by National Sample Survey Organization (NSSO)[7] and some other population-based studies from different parts of the country also reported higher burden of chronic health conditions in elderly population.[8,9] Burden of hemiplegia presumed to be of vascular origin was higher compared to previous reports originating from India.[10] High prevalence of hypertension and low level of awareness and treatment of hypertension might have contributed in the higher prevalence of vascular complication.[11,12] The present findings show that functional dependence of geriatric individuals becomes a more important concern mainly after the age of 75 years. Elderly women were found to be more vulnerable to undernutrition, which could be due to their greater socioeconomic marginalization. Similarly, women were more likely to have musculoskeletal problem than men, which perhaps reflects harder life faced by women who never retire from household work unless totally disabled.[13] Burden of undernutrition was also found to be equally important among less educated elderly. The study also provides evidence that even within urban elderly population, there were striking differences in health status in terms of functional health between educated and less educated. The increased level of health awareness for remaining fit and healthy, and higher use of health services for disease screening and treatment by higher educated probably positively influenced their functional health status and the reverse was probably true in case of less educated.

The lower socioeconomic condition of slum population was perhaps reflected in the high magnitude of preventable conditions like undernutrition and infectious morbidities such as skin sores, scabies, tuberculosis, leprosy, filariasis, and

sequelae of these diseases. Some recent health surveys conducted in migratory workers' population also showed that the prevalence of undernutrition and infectious morbidities was high in this population.[14,15] Elderly people belonging to slums are of lower socioeconomic status and appear to be at higher risk related to poor dietary intake. Consumption of locally prepared alcohol and chewing of tobacco were rampant. Evidence suggests that loss of lean body mass predicts functional status, especially in the elderly. Undernutrition compounded with lower socioeconomic status could probably be responsible for higher prevalence of ADL disability. Further, low utilization rate of health services could also adversely affect health status. The strengths of this study are that it gives a detailed insight into the health problems of the elderly living in the urban slums and that data were collected from each and every household of the selected population. However, a limitation of the study is that no statistical tests were used to identify the potential risk factors to detect the relationship between some background characteristics and diseases or disability.

Conclusion

This study highlights the physical dimension of health of the elderly living in the slums areas of Shimoga and shows that sociodemographic factors and health risk behavior account for much of the health problems. The chronic noncommunicable diseases have been a major issue even among the people living in the slums. As the awareness about the common illnesses is low, the challenge is to identify the reasons behind this and ensuring an increase in the levels of awareness as regards to use of health care services. The government needs to identify the felt needs of this marginalized section so as to improve their living standards and thereby improve the activities of daily living of the elderly.

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