



Health seeking behaviour of the elderly- a comparative study between urban and rural areas of Pune.

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ABSTRACT

Background: The present study explores the variation in epidemiology, treatment coverage and health-seeking behaviour of geriatric population in rural and urban areas. The rural-urban differences would be imperative in effective planning and implementation of interventional programs.

Aims: To assess the prevalence of visual, auditory, locomotion and continence problems, Activities of Daily Living restrictions and low Mini Mental Status Exam scores, treatment coverage, and health-seeking behaviour of geriatric population in rural and urban areas in these aspects.

Setting and design: This was a community based cross-sectional study, carried out in 100 urban and 100 rural subjects in and around Pune city, India. (n=200)

Methods: All subjects were subjected to detailed sociodemographic profile, history about various disabilities, treatment taken, and help sought out. Vision and hearing was assessed through simple bed-side tests, and MMSE was also performed.

Statistical analysis: Percentages, and Chi square test were calculated, $p < 0.05$ was considered significant.

Results: More than 80% urban and 60% rural subjects had visual problems, and this was statistically significant ($p < 0.001$). 24% urban and 32% rural subjects had diminished hearing. 22% of each group had locomotion problems, and approximately 10% had urinary incontinence. 18% score < 6 on Katz scale for ADL. The difference in MMSE scores was found to be significant ($p < 0.001$), with 18% urban and 52% rural subjects scoring below normal. The study shows differences in rates medical aids taken for visual (78.5% of affected urban subjects and only 46.6% of affected rural subjects), locomotion (100% urban, 72.7% rural) and incontinence problems (66.6% urban, 0% rural), being significantly better in urban population than rural. But both groups showed poor initiative (less than 50%) to seek help themselves.

Conclusion: The present study shows that the urban population was affected more in terms of visual disabilities, but auditory, locomotion disabilities and incontinence was found to be similar between urban and rural subjects. The level of treatment received was better in the urban population. However, the health-seeking behaviour was very poor in both groups.

KEYWORDS : urban, rural, geriatric, visual, hearing, locomotion

INTRODUCTION

Remarkable advances in medical science, increase in health care services for all kinds of illnesses and infirmities, and improvement in overall socioeconomic conditions of the developing countries has led to the most striking change in the demography of the world, towards ageing process.^[1] Better living conditions, leading to increased longevity, has led to an exponential rise in the geriatric population. Of the world's elderly population (estimated at 605 million above 60 years of age in 2000), nearly 71% is likely to reside in developing countries.^[2] India has an old age dependency ratio of 8.14%,^[3] but unfortunately a vast majority of India's senior citizens are not taken care of adequately by their families, by themselves, or by the State. Apart from common health conditions of the elderly like diabetes, hypertension, musculoskeletal problems, cataract, COPD (Chronic obstructive pulmonary disease) and other respiratory problems,^[4] the aged also suffer from impairments, disabilities and handicaps with respect to vision, hearing, locomotion, incontinence and many more. According to a large study conducted in Tamil Nadu,^[5] as well as another 5150 sample size study conducted in rural parts of South India,^[6] visual disability was the most important single preventable disability in rural elderly population.

The city of Pune was once considered, among locals, to be a 'retirement home.' The population of citizens aged 60 and above is quite dense, and along with them comes a vast array of health problems. The rural areas around Pune, particularly Shirur and Saswad, also provide comfortable living conditions for the elderly, and have access to health care in the form of primary health care centres, as well as local hospitals. So these areas were selected to conduct this study about geriatric health.

With this background, the present study attempts to shed light on the extent and types of disabilities prevalent among the aged, and how they restrict them from optimally performing Activities of Daily

Living. It also depicts treatment coverage, as well as health-seeking behaviour among urban and rural elderly subjects. These disabilities increase their dependence on others, whom regretfully, they can't depend on. It is imperative to strengthen health programs aimed to provide preventive and control measures to alleviate the suffering of the disabled.

MATERIAL AND METHODS

Type of study and study design – Community-based cross sectional study

Study population – Adults aged 60 years and above residing in urban areas of Pune, as well as rural areas, namely Shirur and Saswad.

Sample size- 200 elderly adults ie 100 urban and 100 rural individuals selected by random sampling method

Selection criteria-

Inclusion criteria- Adults above age 60, and Willing to participate

Exclusion criteria- Adults below age 60, or Unwilling to participate

Data collection

Data was collected over a period of 5 months (March - July 2016). Community based, house to house surveys were conducted after obtaining written, informed consent from the subjects. Detailed demographic and socioeconomic history was elicited. Questions were asked and simple tests like Tuning fork tests, whispering test, and Snellen's and Jaeger's charts were used to gauge the disabilities of the study population. They were classified into groups based on whether they had problems with vision, hearing, locomotion or incontinence. Inquiry was

made into whether they used any special aids, like hearing aid, spectacles, walking sticks, or diapers, and whether they had spoken

about their problems or sought medical care themselves.

Their independence in Activities of Daily Living (ADL) was quantified based on Katz scale, a 6 point scale gauging their ability to perform routine activities, ie bathing, dressing, toileting, transferring, continence, and feeding.

Finally, their cognitive mental status was quantified by the 30 point Mini Mental Status Exam

(MMSE). Each subject's cut-off was decided based on their educational status. The Framingham Heart study protocol^[7] was used, wherein subjects whose education was 7th grade or lower, a score on the MMSE of 22 or below was considered less than appropriate. Subjects whose education attainment level was 8th grade or some high school (but not a graduate of that high school), a score on the MMSE of 24 or below was taken. Subjects who were high school graduates, a score on the MMSE of 25 or below, and subjects whose education attainment level was some college or higher, a score on the MMSE of 26 or below was considered abnormal.

Ethics:

The study was approved by Institutional Ethics Committee.

Statistical analysis:

Percentages, and Chi square test were calculated using statistical software OpenEpi Info version 2.3 year 2009. P values less than 0.05 were considered as statistically significant.

RESULTS

The number of geriatric subjects studied was 200, 100 from urban and 100 from rural areas. The distribution through the age groups was similar between urban and rural subjects, but 24% urban subjects were ≥ 80 years of age, compared to the 8% in the rural group. Number of males was almost equal to that of females in both groups. The predominant religion in both groups was Hinduism (78% in urban, 92% rural). A good majority of the subjects lived with others, less than 20% (16% in urban, 6% in rural) lived alone. Most of the rural subjects are or had been engaged in farming, but urban population showed a variety of occupations. Only 2% urban subjects were illiterate, as compared to the 32% in rural group. Graduates and professionals comprised 24% and 4% of the urban subjects respectively, but none existed in the rural sample. 17% individuals of the urban group belonged to a low socioeconomic class, as compared to the 66% of the rural subjects. The commoner addiction was to alcohol, but 76% urban and 54% rural subjects showed no addictions. The above findings are summarized in table 1.

Table 2 depicts the percentage of subjects suffering from disabilities in vision, hearing, locomotion, and continence (urinary incontinence only, as no subject reported faecal incontinence). 80% urban and 60% rural subjects had visual problems, and this difference was found to be statistically significant ($p < 0.001$). 24% urban and 32% rural subjects had diminished hearing. 22% of each group had locomotion problems, and approximately 10% had urinary incontinence, mostly stress incontinence.

Table 3 depicts independence in ADL based on Katz scale, as well as percentage of people scoring less than appropriate MMSE scores. 18% scored < 6 on Katz scale, depicting uniform prevalence of restrictions in ADL between urban and rural subjects. The difference in MMSE scores was found to be significant ($p < 0.001$), with 18% urban and 52% rural subjects scoring less than expected, despite lowered cut-offs with respect to education. It was found that females performed poorly compared to males, and the rural population fell short in the temporal orientation aspect. They did not know the date, or month, some even did not know the day, neither by the Gregorian calendar, or the lunar calendar. Questions were asked to assess if they knew when the next major festival, or

harvest season would arrive, and even then, the rural population, especially females, failed to answer. In both groups, subjects displayed poor recall, managing to repeat only one, if any, of the words used in the exam. This was true even for the subjects who have adequate MMSE scores.

Table 4 shows the prevalence of the affected individuals having received medical aids. 78.5% urban and 46.6% rural individuals, who have visual problems, had received care, mostly in the form of spectacles, and cataract surgeries. This difference was statistically significant ($p < 0.001$). Use of hearing aid was uniformly low in both groups. More of the urban group was found to have locomotion aids at their disposal (100% of the affected) as compared to rural group (72.7%), and this difference was statistically significant ($p < 0.05$), as was the difference in diaper usage ($p < 0.05$).

Table 5 sheds light on the number of affected individuals who actually sought out care themselves, be it from family members, neighbours, or directly from health care centres. No statistically significant difference was found in any of the disability groups.

DISCUSSION

This study was done to demonstrate the difference in prevalence of disability, treatment given, and health-seeking behaviour between urban and rural geriatric population of Pune. The prevalence of hearing affliction (24%), incontinence (12%), and low MMSE scores (18%) in the urban group were similar values as that obtained by Jayshree Dawane et al^[2] in their study of urban elderly population (29% hearing, 11% incontinence, 20% MMSE). As was their finding, this study also noted an improvement in MMSE score with improving socioeconomic status, and education. Visual disability, however, was found to be much higher in this study (84%), as compared to the study conducted by Jayshree Dawane et al^[2] (12%). This is probably due to the use of Snellen's and Jaegar's charts in this study, which picked up more visual problems.

The amount of visual disability in the rural population of this study was found to be 60%. The percentage of these who received medical aid was 28%. These findings are consistent with the study conducted by Venkatrao T et al^[5] in rural South India, who found 56% affected, and 33% treated, and Anil Jacob Purty et al^[8], who found 57% to have visual disability. Findings of this study slightly differed from the 5150 sample size study conducted by P. K. Nirmalan et al,^[6] where they found 72.7% requiring eye care examinations and 35.5% having undergone primary eyes exams. But the lower limit of age was 40 years, unlike this study where lower limit is 60 years.

This study shows that visual and auditory impairment were the two most common disabilities of the elderly. This is consistent with the findings of A.B. Dey et al^[9] as well as Surekha Kishore et al.^[10]

This study shows 18% urban individuals to have less than appropriate MMSE scores. A study using MMSE was conducted by Shaji S et al,^[11] where the arbitrary cut off of 23 points was used. Identified cases were categorised by ICD-10 criteria, by them. Prevalence of dementia was 33.6 per 1000. This study shows 18% urban individuals to have less than appropriate MMSE scores, but further evaluation for risk of dementia is required.

This study displays differences in rates of treatment and help taken for visual (78.5% of affected urban subjects and only 46.6% of affected rural subjects), locomotion (100% urban, 72.7% rural) and incontinence problems (66.6% urban, 0% rural), being significantly better in urban population than rural. But according to this study, this difference was not due to better health-seeking behaviour of the elderly individuals themselves. Both groups showed poor initiative (less than 50%) to seek help and even express their visual, auditory, locomotion disabilities and especially incontinence problems. This is consistent with the finding of the study done by Kamlesh Joshi et al,^[12] where only 43.5% of the elderly individuals were seeking treatment for their various ailments. This is in spite of

easily accessible health care in the urban area. The subjects of our study had to be told and sent to health care set-ups by family members and care-takers. The difference in treatment coverage hence may be attributed to caretakers, and health programs reaching out to geriatric population. Hence, better coverage is required in rural areas.

CONCLUSION

The present study shows that the urban population was affected more in terms of visual disabilities, but auditory, locomotion disabilities and incontinence was found to be similar between urban and rural subjects. The level of treatment received was better in the urban population. However, the health-seeking behaviour was very poor in almost all the disabilities, in both the rural and urban subjects.

Since many patterns of mixed diseases and disabilities occur in the elderly, a comprehensive health care approach should be employed by all medical and paramedical care-givers. Sensitizing the elderly population as well as their families and care takers of the importance of early intervention in all diseases and disabilities is important. Improving health-seeking behaviour is essential to reduce the morbidities associated with old age.

TABLE 1- Sociodemographic characteristics of the study subjects

CHARACTERISTICS		URBAN (n=100)	RURAL (n=100)
AGE GROUPS (years)	60-69	44	52
	70-79	32	40
	≥80	24	8
GENDER	MALES	54	58
	FEMALES	46	42
RELIGION	Hindu	78	92
	Muslim	12	8
	Christian	4	0
	Buddhist	2	0
	Sikh	4	0
LIVING STATUS	With others	84	94
	Alone	16	6
EDUCATION	Illiterate	2	32
	Primary school	14	30
	Middle school	26	24
	High school	12	10
	Intermediate/ High school diploma	18	4
	Graduate	24	0
	Professional	4	0
SOCIOECONOMIC CLASS	High	83	34
	Low	17	66
ADDICTIONS	Alcohol	16	26
	Cigarette smoking	6	5
	Tobacco	6	22
	Mixed habits	4	7
	Nil	76	54

TABLE 2- Distribution of study subjects according to various disabilities

DISABILITY	URBAN (n=100)	RURAL (n=100)	χ^2 df 1	P value
Visual disability	84	60	13.12	<0.001
Hearing disability	24	32	1.2	0.2
Locomotion disability	22	22	0.02	0.8
Urinary incontinence	12	10	0.05	0.8

TABLE 3- Distribution of study subjects according to disability scales

SCALE	URBAN	RURAL	χ^2 df 1	P value
Katz score of ADL <6	18	18	0.03	0.8
MMSE score less than normal for educational status	18	52	23.9	<0.001

TABLE 4- Distribution of study subjects according to treatment/ medical aid taken

TREATMENT/ MEDICAL AID	URBAN	RURAL	χ^2 df 1	P value
Spectacles/ Cataract surgery	66 (78.5)	28 (46.6)	14.3	<0.001
Hearing aid	2 (8.3)	6 (18.7)	0.5	0.4
Walking sticks/ Walkers/ Crutches/ Wheelchair	22 (100)	16 (72.7)	4.8	0.02
Diaper	8 (66.6)	0 (0)	7.7	0.005

*Figures in parenthesis indicate percentage

TABLE 5- Distribution of study subjects who sought out health-care

DISABILITY FOR WHICH MEDICAL AID WAS TAKEN	URBAN	RURAL	χ^2 df 1	P value
VISION	30 (35.7)	12 (20)	3.4	0.06
HEARING	0 (0)	4 (12.5)	1.6	0.2
LOCOMOTION	12 (54.5)	8 (36.4)	0.8	0.36
URINARY INCONTINENCE	0 (0)	2 (20)	0.7	0.37

*Figures in parenthesis indicate percentage

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