

SHORT COMMUNICATION

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Study of Disability Level of Daily Activity in Geriatric Population Living in Rural Area of an Indian City

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Abstract

Objective: At present geriatrics has not been fully established as a speciality in India and Rajasthan. The problems associated with the ageing of the population are that of absence of facilities of medical treatment and providing economic and social support. Hence, information on morbidity profile of the population is essential for planning its health care facilities. Therefore, the present study was undertaken on the morbidity pattern among geriatric population in the field practice area of RHTC, Achrol. **Material and method:** The present study is a community based cross-sectional study. Study population included all the elderly persons of 60 years and above age group, residing in the field practice area of RHTC Achrol. **Result:** This study showed that almost half of the elderly i.e. 47.7% had normal gait & stability and out of them majority i.e. 85.3% belonged to 60 to 64 years of age group, while the proportion of elderly having normal but slow and limited physical activity was found to increase significantly ($p < 0.05$) with age i.e. from 14.8% & 0.0% respectively in age group 60 to 64 years to 42.8% and 57.1% respectively in >80 age group. **Conclusion:** It was found that higher proportion of females i.e. 53.6% than males i.e. 51.4% had gait disturbances ($p > 0.05$).

Key words: Geriatrics, Morbidity Pattern, IADL, ADL, India.

INTRODUCTION

In India, in the last one and half decades longevity of the people has increased due to decline in mortality rate, better medical and health care facilities and improvements in overall quality of life of people.^[1] Due to the increase in longevity of the people, geriatric population is on the rise. Presently India has the second largest geriatric population on the globe.^[2] In 2001, geriatric population was 77 million in India and it is estimated that in India total number of elderly will rise to 150 million by 2025^[3] and by the year 2050 the number would rise to about 324 million.^[4] This changing scenario has given rise to three major needs: social, health & financial security to elderly.

Ageing is a normal, inevitable, biological phenomenon and it is not known when old age begins. United Nations considers 60 years as the age of transition to the elderly age group. In India, people aged 60 years and above are treated as old^[5,6] and this definition was used for conducting the present study.



Due to advents of urbanization, industrialization, education & exposure to western life styles the social values towards elderly are changing leading to a rapid breakdown from joint family support system to nuclear family system which further leads to problems like economic insecurity, loneliness, lack of emotional support, lack of protection for their lives and property and dependency.^[7] Venkatrao T *et al.*^[8] conducted a cross-sectional study to see the prevalence of disability and handicaps in geriatric population of South India among 974 elderly and they observed that 22% of elderly had activity of daily living (ADL) restriction and 36% had instrumental activity of daily living (IADL) restriction.

Pondal *et al.* In their study “Normative data and determinants for Timed Get Up and Go test in a population based sample of elderly individuals without gait disturbances” found that more females were affected in Timed Get Up & Go Test and it was positively related with age ($p < 0.05$).

Krishnamachari *et al.*^[9] conducted a cross-sectional study to see the prevalence of health related disability among community dwelling urban elderly in Bangalore among 356 elderly and found IADL disability in 6.9%. Srinivasan S in his study “The concise cognitive test for dementia screening: reliability and effects of demographic variables as compared to the mini mental state examination” found that ageing and education level, but not gender significantly influenced performances on MMSE scale. Swarnlatha *et al.*^[10] showed in their study that prevalence of disabilities in rural elderly population was 21.7% had ADL impairment.

With an increasing elderly population in India, better documentation of their health profile is needed to inform the policy makers of health problems which they present with. At present geriatrics has not been fully established as a specialty in India and Rajasthan. The problems associated with the ageing of the population are that of absence of facilities of medical treatment and providing economic and social support. Therefore, the present study was undertaken

with the objective to find out the disability level of daily activity among geriatric population in the field practice area of RHTC, Achrol Jaipur, Rajasthan.

MATERIALS AND METHODS

Study Design: Community based cross-sectional study. **Sample Size:** For this study the sample size was calculated. Accepting the prevalence of overall morbidity among elderly as 58.1% as per seed article (Ansari *et al.*)^[11] with allowable error of 5% with 95% confidence limit, the calculated sample size came out to be 374.07 elderly people, which were rounded off to 400 for conducting this study. **Study Area:** The study was conducted at Achrol village which is the field practice area of Department of Community Medicine, NIMS Medical College, Jaipur. **Population:** Study population included all the elderly persons of 60 years and above age group, residing in the field practice area of RHTC Achrol. **Study Period:** The study was conducted from January 2014 and continued till July 2015. **Inclusion Criteria:** Both males and females of the age 60 years and above, willing to participate in the study. **Exclusion criteria:** Individuals below 60 years, Houses which were found to be locked or subjects unavailable. During the survey all those who could not be contacted on the first visit, two further visits were made before declaring the subject unavailable and Elderly people not willing to participate in the study or who did not give consent. **Methodology:** First oral informed consent was taken from the study subjects. Contents of the questionnaire were explained to the subject and they were assured that total confidentiality will be maintained. A pre-designed, semi-structured questionnaire was used for collecting the data. As the family was taken as a unit for study, the families were randomly selected which provided the estimated number of aged people. Data was gathered by conducting house to house visits. Health status of the elderly persons was assessed through self-reported data on history of illness, clinical examination & reviewing past

Table 1: Distribution of elderly according to gender & ADL.

Activities of Daily Living	Total No. of Elderly		SEX								Total			
			MALE				FEMALE							
			Can do		Can't do		Can do		Can't do		Can do		Can't do	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Bathing	400	100.	246	61.5	03	0.8	150	37.5	01	0.2	396	99.0	4	1.0
Dressing	400	100.	245	61.2	04	1.0	149	37.2	02	0.5	394	98.5	6	1.5
Toileting	400	100.	230	57.5	19	4.8	137	34.2	14	3.5	367	91.7	33	8.3
Transfers	400	100.	231	57.8	18	4.5	138	34.5	13	3.2	369	92.3	31	7.7
Grooming	400	100	248	62.0	01	0.3	150	37.5	01	0.2	398	99.5	2	0.5
Feeding	400	100	249	62.3	00	0.0	151	37.7	0	0.0	400	100.0	0	0.0

Table 2: Distribution of geriatric population based on gender and IADL.

Instrumental Activities of Daily Living	Total No. of Elderly		SEX								Total			
			MALE				FEMALE							
			Can do		Can't do		Can do		Can't do		Can do		Can't do	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Administering own medication	400	100.	236	59.0	13	3.3	130	32.5	21	5.2	366	91.5	34	8.5
Grocery shopping	400	100.	233	58.3	16	4.0	139	34.7	12	3.0	372	93.0	28	7.0
Preparing meals	400	100.	211	52.8	38	9.5	138	34.5	13	3.2	348	87.3	51	12.7
Using telephone	400	100.	240	60.0	9	2.3	124	31.0	27	6.7	364	91.0	36	9.0
Driving & transportation	400	100	234	58.5	15	3.8	134	33.5	17	4.2	368	92.0	32	8.0
Handling own finances	400	100	244	61.0	5	1.3	139	34.7	12	3.0	383	95.7	17	4.3
Housekeeping	400	100	235	58.7	14	3.5	139	34.7	12	3.0	374	93.5	26	6.5
Laundry	400	100	234	58.5	15	3.8	138	34.5	13	3.2	372	93.0	28	7.0

Table 3: Distribution of elderly according to gender and gait and stability.

Gait & Stability	Sex				Total		P value
	Male		Female		No.	%	
	No.	%	No.	%			
Normal	121	48.6	70	46.4	191	47.8	>0.05
Normal But Slow	78	31.3	47	31.1	125	31.2	>0.05
Limited Physical Mobility	50	20.1	34	22.5	84	21.0	>0.05
Total	249	62.3	151	37.7	400	100.0	

medical records of the study subjects. Need for supportive services was found out by assessing Activities of daily living (ADL), Instrumental activities of daily living (IADL) and Timed get up and go test.

Activities of daily living

Functional impairment was defined as difficulty in performing, or requiring the assistance of another person to perform, one or more of the following activities of daily living: ADLs (Activities of daily living)¹¹ bathing, dressing, toileting, transfers, grooming and feeding. These are the essential elements of self-care. Inability to independently perform even one activity may indicate a need for supportive services.

Instrumental activities of daily living (IADLs)

administering own medication, grocery shopping, preparing meals, using the telephone, driving and transportation, handling own finances, housekeeping, laundry. These activities are associated with independent living in the community and provide a basis for considering the type of services necessary in maintaining independence.

Administering own medication, grocery shopping and preparing meals are the most important IADL activities.

Timed Get Up and Go test

For screening, a marker was placed on the floor ten feet from patient's chair. The score was the time taken in seconds. Then patient was asked to rise from the chair & to walk to the line on floor (10 feet), then to return to the chair and sit down. Normal time required to complete the test : less than 10 seconds, if patient took 10-20 seconds then he/she was considered normal but slow and if the patient took >20 seconds then he/she had limited physical mobility. Data was analyzed by using SPSS version 20. The study was approved by Department of Community Medicine, NIMS Medical College, Jaipur, India.

RESULTS AND DISCUSSION

In the present study, it was observed that out of 400 elderly 62.3% were male and 37.7% were female and majority of the elderly i.e. 76.5% were in the age group 60 to 69 yrs followed by 20.0% in 70 to 79 yrs and 3.5% in 80 yrs and above age groups (Figure 1) . These findings tally well with

the findings of Kishore *et al.*^[13] who in their cross-sectional study on morbidity profile of elderly in Jammu & Kashmir observed that males (62.1%) outnumbered females (37.9%) and that maximum number of elderly belonged to age group of 60 to 69 years (63.8%) followed by 21.1% in 70 to 74 years age group. Singh *et al.*^[14] in their cross-sectional study in Wardha, Maharashtra also observed that there were more males (53.1%) than females (46.9%). They also found that 79.3% of the total elderly belonged to 60 to 69 years age group followed by 16.1% and 4.6% in 70 to 79 years and 80 years and above age group respectively.

In the present study it was found that 19% elderly could not perform the Activities of Daily Living and 12.7% required assistance in performing Instrumental Activities of Daily Living (IADL) (Table 1 & 2). Similar observations were made by Venkatrao *et al.*^[8] and Swarnalatha *et al.*^[10] in their respective cross-sectional studies in South India and Andhra Pradesh where they found the prevalence of ADL impairment to be 22% and 21.7% respectively while another researcher found IADL impairment in 6.9% elderly.^[9] The study showed that almost half of the elderly i.e. 47.8% had

normal gait and stability which was equally distributed. While the proportion of elderly having normal but slow and limited physical activity was 31.2% & 21.0% respectively. The differences were found to be statistically significant ($p < 0.05$). (Figure 2). Similar observations were made by Pondal M *et al.*^[15]

CONCLUSION

It was found that higher proportion of females than males had gait disturbances. This study showed that almost half of the elderly had normal gait and stability and out of them majority belonged to 60 to 64 yrs of age group, while the proportion of elderly having normal but slow and limited physical activity was found to increase with in age group 60 to 64 years to 42.8% & 57.1% respectively in ≥ 80 age group. The proportion of elderly having normal but slow and limited physical mobility was significantly more i.e. 48.5% and 32.8% in socio-economic class IV and II respectively. It was also found that higher proportion of females i.e. 53.6% than males i.e. 51.4% had gait disturbances.

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COMPETING INTERESTS

NIL

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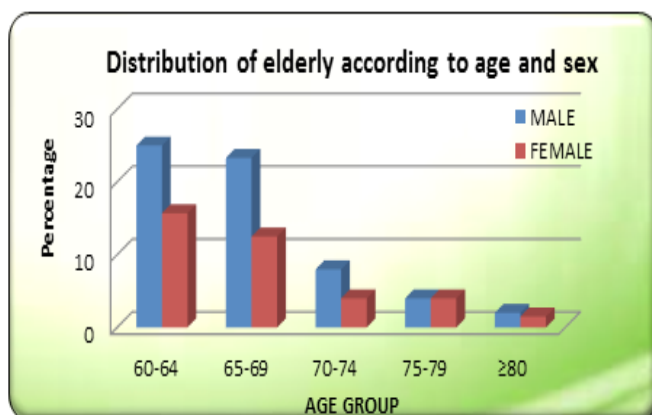


Figure 1: Distribution of elderly according to age and sex.

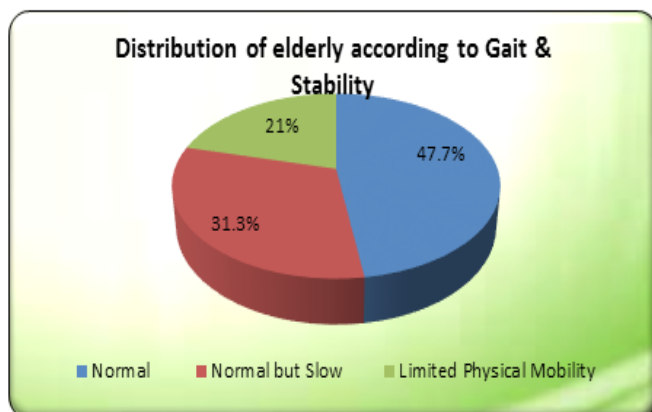


Figure 2: Distribution of elderly according to gait and stability.

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