

A Cross Sectional Study of the Morbidity Profile among the Geriatric Population in a District of Maharashtra.Priyanka N. Akhade¹, Sushant S. Chavan², Raghavendra Swamy³¹Department of Community Medicine, Shri Bhausaheb Hire Govt. Medical College Dhule, Maharashtra, India²Department of Community Medicine, Shri Bhausaheb Hire Govt. Medical College Dhule, Maharashtra, India³ Department of Community Medicine, Ramaiah Medical College, Bangalore, India

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Conflict of interest: Nil

Abstract:**Background:** Population ageing is an inevitable consequence of the demographic transition experienced by all the countries across the world. The proportion of older persons in the population of a country has increased. India has around 104 million elderly persons (8.6%, Census 2011). This study focuses on the assessment of the geriatric health problems.**Objectives:**

- 1) To assess functional status among elderly.
- 2) To assess morbidities among elderly.

Methods: It was a community based cross sectional study conducted in population ≥ 60 years in Nanded. Total 422 persons were studied. Presence of morbidity was elicited by self-reporting, supplemented by history, clinical examination and any medical records. Data was collected in Google Forms and analysis done in Epi info software.**Results:** Majority of the elderly were in the age group of 60-74 years of age (83.65%). Males constituted 59.24% while female constituted 40.76% of the respondents. 54.27% participants were addicted of which most common addiction was of tobacco chewing (57.20%). Most common disorder found was arthritis (68.48%) followed by cataract (54.74%).**Conclusions:**

Awareness among them should be created for regular medical check-ups to ensure prevention and early detection of the chronic diseases.

Keywords: Geriatric, ADL, IADL

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Introduction

Sir James Sterling Ross commented: "You do not heal old age, you protect it, you promote it, and you extend it".

Population ageing is an inevitable consequence of the demographic transition experienced by all the countries across the world. The proportion of older persons in the population of a country has increased. According to Population Census 2011 there are nearly 104 million elderly persons (aged ≥ 60 years) in India; 53 million females and 51 million males. Both the share and size of elderly population is increasing over time. From 5.6% in 1961 the proportion has increased to 8.6% in 2011. Most common disability among the aged persons was locomotor disability and visual disability as per Census 2011. [1] By 2025, the world's population is expected to include more than 830 million people above the age of 65 years with the highest

percentage of the population in the developed countries, but the absolute number will be higher in developing countries. [2] It has been projected that by the year 2050, the number of elderly people in India would rise to about 324 million. [3]

Elderly individuals can be further categorized as young old (60-74 years), old old (75- 84 years) and oldest old (85 years and over). [4]

With increasing age, there is an age-related increase in co-morbidity and disability. Ageing is a process that steadily reduces physiological reserve, resulting in diminished ability to compensate with illness. Illnesses accumulate with age and increase in severity and number. A double burden of physiological decline and disease is associated with excess morbidity and resultant disability.

Functional status may be poor due to various causes such as visual impairment, hearing loss, imbalance, immobility etc. and needs to be identified and treated as this can affect an individual's activities of daily living.

Hence a comprehensive geriatric assessment would be beneficial in the elderly. Comprehensive geriatric assessment (CGA) is a multi dimensional interdisciplinary diagnostic process focused on determining a frail elderly person's medical, psychological and functional capability in order to develop a co-ordinate and integrated plan for treatment and long-term follow-up. [5]

This study focuses on the assessment of the geriatric health problems.

Objectives:

- 1) To assess functional status among elderly.
- 2) To assess morbidities among elderly.

Methods

It was a community based cross sectional study conducted in population ≥ 60 years in a district of Maharashtra. Individuals, who were 60 years & above were included in the study and who were terminally ill were excluded from the study. Sample size calculation was done using EPI info software.

A default prevalence of morbidity at 50% was taken and 95% confidence interval with 5% allowable error. Using these inputs, the sample size calculated was 384 subjects. Considering 10% loss to follow up total 422 persons were studied. Presence of morbidity was elicited by self-reporting, supplemented by history, clinical examination and any medical records. Data was collected by simple random sampling in Google Forms and analysis done in Epi info software. Physical Self-Maintenance Scale used to measure performance in activities of daily living (ADL). The Index ranks adequacy of performance in the six functions of bathing, dressing, toileting, transferring, continence, and feeding. Score 6 = High (independent) :0 = Low (very dependent)

The Lawton Instrumental Activities of Daily Living Scale (IADL) is an instrument to assess independent living skills. There are eight domains of function measured with the Lawton IADL scale - Ability to Use Telephone, Laundry, Shopping, Mode of Transportation, Food preparation, Responsibility for Own Medications, Housekeeping and Ability to Handle Finances. Score of 0 (low function, dependent) to 8 (high function, independent) for women and 0 through 5 for men. [6]

Results

Table 1: Sociodemographic characteristics

CHARACTERISTICS		Frequency (422)	Percentage (%)
Gender	Male	250	59.24
	Female	172	40.76
Age	60-74	353	83.65
	75- 84	57	13.51
	≥ 85	12	2.84
Religion	Hindu	265	62.80
	Muslim	81	19.19
	Buddhist	62	14.69
	Others	14	3.32
Marital status	Married	319	75.59
	Separated	8	1.90
	Widow	90	21.33
	Unmarried	5	1.18
*Addiction-229 (54.27%)	Alcohol	88	38.43
	Smoking	47	20.52
	Tobacco chewing	131	57.20

Multiple response*

Majority of the elderly were in the age group of 60-74 years of age (83.65%). Male constituted 59.24% while female constituted 40.76% of the respondents. 62.80% belongs to Hindu religion while 75.59% were married. 54.27% participants were addicted of which most common addiction was of tobacco chewing (57.20%)

Table 2: Frequency distribution according to activities of daily living

Activities of daily living	60-74 (N=353)		75-84 (N=57)		≥85 (N=12)	
	D	I	D	I	D	I
Toileting	71(20.11)	282(79.89)	31(54.39)	26(45.61)	9(75.00)	3(25.00)
Feeding	50(14.17)	303(85.83)	25(43.86)	32(56.14)	8(66.67)	4(33.33)
Dressing	73(20.68)	280(79.32)	30(52.63)	27(47.37)	9(75.00)	3(25.00)
Transferring	98(27.76)	255(72.24)	32(56.14)	25(43.86)	7(58.33)	5(41.67)
Grooming	80(22.66)	273(77.34)	30(52.63)	27(47.37)	7(58.33)	5(41.67)
Bathing	67(18.98)	286(81.02)	31(54.39)	26(45.61)	8(66.67)	4(33.33)

D- Dependently I- Independently*

In age group 60-74 years 79.29% participants independently do their activities of daily living, 47.66% of 75-84 age group while only 33.33% participants of age group ≥85 do it independently

ADL Scoring	60-74 (N=353)	75-84 (N=57)	≥85 (N=12)
≤2 (severe functional impairment)	79(22.38)	19(33.33)	9(75.00)
3-4 (Moderate functional impairment)	116(32.86)	22(38.60)	2(16.67)
5-6 (Independent)	158(44.76)	16(28.07)	1(8.33)

Table 3: Frequency distribution according to instrumental activities of daily living

Instrumental Activities of Daily Living	60-74 (N=353)		75-84 (N=57)		≥85 (N=12)	
	D	I	D	I	D	I
Ability to use telephone	64(18.13)	289(81.87)	22(38.60)	35(61.40)	7(58.33)	5(41.67)
Shopping	44(12.46)	309(87.53)	49(85.96)	8(14.04)	10(83.33)	2(16.67)
Food preparation	175(49.57)	178(50.42)	50(87.71)	7(12.29)	10(83.33)	2(16.67)
Housekeeping	144(40.79)	209(59.21)	36(63.16)	21(36.84)	9(75.00)	3(25.00)
Laundry	173(49.01)	180(50.99)	42(73.68)	15(26.32)	10(83.33)	2(16.67)
Transportation	169(47.87)	184(52.13)	51(89.47)	6(10.53)	10(83.33)	2(16.67)
Responsibility for own medication	118(33.43)	235(66.57)	47(82.46)	10(17.54)	11(91.67)	1(8.33)
Finance handling	134(37.96)	219(62.04)	46(80.70)	11(19.30)	10(83.33)	2(16.67)

In age group 60-74 years 63.84% participants independently do their activities of daily living, 24.78% of 75-84 age group while only 19.79% participants of age group ≥85 do it independently.

Table 4: Frequency distribution of chronic illness

Comorbidities	Frequency	Percentage (%)
Arthritis	289	68.48
Bronchial asthma	26	6.16
Cataract	231	54.74
Diabetes	81	19.19
Hypertension	72	17.06
Thyroid disorder	24	5.69

Multiple response*

Most common disorder found was arthritis (68.48%) followed by cataract (54.74%). Diabetes and hypertension was found in 19.19% and 17.06% respectively.

Type of complain	Frequency	Percentage(%)
Visual Problem	267	63.27
Hearing Problem	189	44.79
Dental Problem	213	50.47
Joint pain	289	68.48
Impairment of memory	71	16.82
Frequent fall	25	5.92

Multiple response*

Most common problems reported by the study population were joint pain (68.48), visual problem (63.27%) followed by dental problem (50.47%).

Discussion

According to a study done by Kua at China, showed that among individuals between 75 & 79 years 91.1% could still continue independent living and only 8.9% needed assistance & among the individuals above 80 yrs, 76.1% of individuals were able to live independent lives but 23.9% of individuals needed help daily. [7] This is similar to our study where 79.29% of the individuals below 75 years of age and 33.33% of the individuals above 85 yrs of age did not require assistance.

Most common problems reported by the study population were joint pain (68.48), visual problem (63.27%) followed by dental problems (50.47%). In a study done by H.M. Swami et al [8] pain in joints (38%) were common finding. 93.77% had one or more health related problems, whereas Ray [9] observed same in 81.3% and SPS Bhatia [10] in 86.1% aged persons.

68.48% of inmates were suffering from osteoarthritis. M.K. Sharma et al [11] observed osteoarthritis in 57.2% individuals.

In a study by Surekha Kishore et al [12] prevalence of hypertension in elderly persons was 41.4%. A study conducted in Chandigarh by Kumar [13] found 44.9% prevalence of hypertension. In present study prevalence of hypertension was 17.06%. RB Gurav et al [14] found prevalence of bronchial asthma 7.92%, which nearly matches with the present study (6.16%).

The prevalence of diabetes mellitus was 19.19% in present study, similar finding was seen in study conducted by H.M. Swami et al [8] (12.2%).

Conclusion:

The elderly are one of the most vulnerable and high risk group in terms of health status in any society. Awareness among them should be created for regular medical check-ups to ensure prevention and early detection of the chronic diseases.

Declarations

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Ethical approval: Taken from institutional ethical committee.

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