

# Cross sectional study of morbidity pattern among geriatric population in urban and rural area of Gulbarga

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## Abstract

**Background:** Morbidity patterns among geriatric age group need to be studied extensively for formulating effective strategies to improve their health status.

**Objectives:** To know the morbidity patterns among geriatric population during study period. To determine association of socio-economic factors with morbidity patterns among geriatric age group.

**Methods:** A cross-sectional study was done among geriatric age group who were aged 60 years & above from November 2008 to October 2009. Sample size of 370 was estimated & systematic random sampling done to select the study population both in urban & rural areas. The persons were interviewed using pre tested proforma.

**Results:** Majority of study population 34.59% were in the age group of 60-64 years. Out of 185 urban study population 60% were females and 40% were males. Out of 185 rural study population 42.17% were females and 57.83% were males. The prevalence of psycho social problem was the commonest 37.3%, followed by cataract 35.40%, hearing impairment 22.43% and cardio vascular problems 17.23%. Cardio vascular problem morbidity was more in urban area 20% as compared to rural area 15.14%. Musculoskeletal problems, respiratory problems, cataract and hearing impairment were more common in rural area.

**Conclusion:** As there is a rapid expansion of geriatric age group & morbidities among them, there is an urgent need to geriatric health care services in developing countries like India & provide training to the health care providers to manage the commonly existing health problems in the community.

**Key words:** Geriatric population. Morbidity pattern. Urban and rural area.

## Introduction

Population around the world is growing old at high rate with increasing life expectancy. The challenge ahead for health care in coming years is to ensure the quality of life to a large group of geriatric population. However, to address the health care needs of this growing numbers of vulnerable heterogeneous population, reliable information about their health problems from different social settings still lacking in India<sup>[1]</sup>.

Demographic transition has been accompanied by

changes in society and economy. Instead of strong family ties in India, the position of large number of old persons has become vulnerable due to which they cannot be granted that their children will be able to look after them<sup>[2]</sup>.

Gulbarga is a big and socio-economic backward district of Karnataka state, where majority of population is devoid of basic amenities. Thus to plan services for the care of geriatric population, would require information and analysis of existing situation. In the past no studies have been carried

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out to assess the health status of old people in and around Gulbarga district. Therefore this study is an attempt at a multidimensional assessment of urban and rural geriatric population.

## Objectives

1. To know the morbidity pattern among geriatric population during study period.
2. To determine association of socio-economic factors with morbidity among geriatric age group.

## Materials and methods

Study population comprised of persons with age 60 yrs and above in urban and rural field practice area of Department of Community Medicine, MR Medical college, Gulbarga.

The sample size 370 was calculated based on the prevalence rate of geriatric morbidity of 52% as reported in NSSO 2003 by allowing a maximum error of 10%. Further sampling was done by systematic random sampling method. The total sample estimated was 370 which were equally divided into 185 each and the subjects were selected from urban and rural field practice area respectively. A preliminary house to house survey was done to know the number of persons aged 60 years and above. After enumerating them by using systematically random sampling technique every alternate person aged 60 years and above were included into the study till the required sample is met. In case of non-availability of the selected person during the study, the next person in the list was included. Same procedure was used both in urban and rural field practice area. A house to house visit was made in the selected area, the nature, purpose and objectives of the study were explained to the aged person chosen for the study. The person was interviewed using the pre-tested proforma.

## Results

Out of 370 study population maximum 34.59% were in the age group of 60 -64 years followed by 31.60% belonged to the age group of 65-69 years. Percentage of females were more in urban area (60%) as compared to rural area (42.17%). 77.03% of study group were illiterates. Among them 56.84% were from rural area and 43.16% belonged to urban area. Out of 370 study population maximum 35.95% belonged to class IV followed by 28.65% to class III.

The commonest morbidity among study population was psychosocial problems i.e. 37.30%.

The next commonest morbidities were cataract in 35.40%, hearing impairment in 22.43% and followed by cardiovascular problems in 17.56% of study population. Cardiovascular problems morbidity was more (20%) in urban area as compared rural area (15.14%). Musculoskeletal morbidity (9.19%), respiratory morbidity (5.42%), cataract 40% and hearing impairment 24.86% were more in rural area as compared to urban area. Miscellaneous morbidity includes diabetes, filariasis, typhoid, dental caries, hernia, varicose veins, and hemi paralysis. The relation between age and cataract and also between age and hearing impairment was statistically highly significant ( $p < 0.001$ ). Psychosocial problems were more common in females (40.41%) compared to males (34.25%). 10.05% females and 3.86% males had musculoskeletal problems which was statistically significant ( $p < 0.05$ ). 19.33% males had cardiovascular problems and 5.52% had GIT problems which were more when compared to females. 35.97% of females had cataract and 23.28% had hearing impairment which were more in comparison with males. 35.29% literates and 12.28% illiterates had cardiovascular problems which were statistically highly significant ( $p < 0.001$ ). Illiterates 39.30% had more psychosocial problems as compared to 30.59% of literates. Cardiovascular diseases were 21.80%, respiratory diseases were 4.51%, genitourinary (2.25%), cataract 36.09% hearing impairment 15.78% were more in upper socioeconomic class i.e. class I, class II and class III. Psychosocial 40.60%, musculoskeletal 6.01% and GIT problems 3% were more in lower socioeconomic status i.e. in class IV and V.

## Observation Tables

Table 1. Age and Sex-wise Distribution of Study Population

Age	Urban		Total		Rural		Total		Grand Total	
	Male	Female	No	%	Male	Female	No	%	No.	%
60-64	21	43	64	34.59	33	31	64	34.59	128	34.59
65-69	23	35	58	31.35	36	23	59	31.89	117	31.60
70-74	15	25	40	21.62	21	18	39	21.08	79	21.35
75-79	7	6	13	7.02	15	2	17	9.20	30	8.19
80	8	2	10	5.40	2	4	6	3.40	16	4.32
Total	74	111	185	100.00	107	78	185	100.00	370	100.00

Table 2. Education Status of Study Population

Education Status	Urban		Total		Rural		Total		Grand Total	
	Male	Female	No.	%	Male	Female	No.	%	No.	%
Illiterate	33	90	123	66.49	88	74	162	87.57	285	77.03
Primary	10	10	20	10.81	11	03	14	7.57	34	9.19
Secondary	5	07	12	6.49	5	0	5	0.27	17	4.59
College	6	0	6	0.32	2	0	2	0.11	08	2.16
Graduation	16	4	20	10.81	1	1	2	0.11	22	5.95
Post Graduate	4	0	4	0.22	0	0	0	0	04	1.08
Total	74	111	185	100.00	107	78	185	100.00	370	100.00

Table 3. Socioeconomic Class of Study Population

Socioeconomic Class	Urban		Rural		Total	
	No.	%	No.	%	No.	%
I	2	1.08	3	1.62	5	1.35
II	10	5.41	12	6.49	22	5.95
III	42	22.70	64	34.59	106	28.65
IV	62	33.51	71	38.38	133	35.95
V	69	37.30	35	18.92	104	28.10
Total	185	100.00	185	100.00	370	100.00

Table 4. Distribution of morbidity among Study Population

Morbidity	Urban (N=185)	Rural (N=185)	Total (N=370)	%	No.	%
	No.	%	No.			
Cardiovascular	37	20.00	28	15.14	65	17.57
Psychosocial	63	34.05	75	40.54	138	37.30
Musculoskeletal	9	4.86	17	9.19	26	7.03
Respiratory	5	2.70	10	5.42	15	4.05
Genitourinary	2	1.08	5	2.70	7	1.89
GIT	3	1.62	9	4.86	12	3.24
Cataract	57	30.82	74	40.00	131	35.41
Hearing Loss	37	20.00	46	24.86	83	22.43
Miscellaneous	24	12.97	22	11.89	46	12.43

**Table 5. Age and Morbidity Distribution of Study Population (Figures in bracket indicates %)**

Morbidity	Age					Total	
	60-64 (n=128)	65-69 (n=117)	70-75 (n=79)	75-79 (n=30)	80 (n=16)	No.( %) (n=370)	P value
CVS	20 (15.63)	19 (16.24)	17 (21.52)	06 (20)	03 (18.75)	65 (17.57)	>0.05
Psychosocial	45 (35.16)	35 (29.91)	35 (44.30)	16 (53.33)	07 (43.75)	138 (37.30)	>0.05
Musculoskeletal	10 (07.81)	05 (04.27)	05 (06.33)	04 (13.33)	02 (12.50)	26 (07.03)	>0.05
Respiratory	06 (04.69)	04 (03.42)	04 (05.06)	00 (00)	01 (06.25)	15 (04.05)	>0.05
Genitourinary	00	2 (01.71)	02 (02.53)	02 (06.66)	01 (06.25)	07 (01.89)	>0.05
GIT	03 (02.34)	07 (05.98)	00	00	02 (12.50)	12 (03.24)	>0.05
Cataract	34 (26.56)	38 (32.48)	34 (43.04)	14 (46.66)	11 (68.75)	131 (35.41)	<0.001
Hearing impairment	24 (18.75)	16 (13.68)	26 (32.91)	11 (36.66)	06 (37.50)	83 (22.43)	<0.001
Miscellaneous	19 (14.84)	13 (11.11)	09 (11.39)	01 (3.33)	04 (25.00)	46 (12.43)	>0.05

Note: To calculate chi square test study subjects clubbed in to <75 years and  $\geq$  75years.

**Table 6. Sex and Morbidity Distribution of Study Population**

System	Sex		Total No. (n=370)	P
	Male (n=181)	Female (n=189)		
CVS	35 (19.34)	30 (15.87)	65 (17.56)	>0.05
Psychosocial	62 (34.25)	76 (40.21)	138 (37.30)	>0.05
Musculoskeletal	07 (3.87)	19 (10.05)	26 (07.03)	<0.05
Respiratory	10 (5.52)	05 (2.65)	15 (04.05)	>0.05
Genitourinary	7 (3.87)	00	07 (01.89)	<0.02
GIT	06 (3.31)	06 (3.17)	12 (03.24)	>0.05
Cataract	63 (34.87)	68 (35.98)	131 (35.40)	>0.05
Hearing impairment	39 (21.55)	44 (23.28)	83 (22.43)	>0.05
Miscellaneous	27 (14.92)	19 (10.05)	46 (12.43)	>0.05

**Table 7. Education status and morbidity distribution of study population**

Morbidity	Education status						Total	
	IL (n=285)	P (n=34)	S (n=17)	C (n=08)	G (n=22)	PG (n=04)	No. (%)	P
CVS	35 (12.28)	11 (32.35)	5 (29.41)	3 (37.5)	7 (31.81)	4 (100)	65 (17.56)	<0.001
Psychosocial	112 (39.30)	15 (44.12)	7 (41.18)	1 (12.5)	3 (13.64)	0	138 (61.08)	>0.05
Musculoskeletal	22 (7.71)	3 (8.80)	1 (5.88)	0	0	0	26 (07.03)	>0.05
Respiratory	12 (4.81)	2 (5.88)	0	0	1 (4.54)	0	15 (04.05)	>0.05
Genitourinary	4 (1.40)	3 (8.80)	0	0	0	0	07 (01.89)	>0.05
GIT	9 (3.15)	2 (5.88)	1 (5.88)	0	0	0	12 (03.24)	>0.05
Cataract	106 (37.2)	9 (26.47)	8 (47.05)	2 (25)	6 (27.27)	0	131 (35.40)	>0.05
Hearing impairment	61 (21.40)	12 (35.29)	4 (23.52)	1 (12.5)	4 (18.18)	1 (25)	83 (22.43)	>0.05
Miscellaneous	31 (10.87)	4 (11.16)	5 (29.41)	2 (25)	4 (18.18)	0	46 (12.43)	>0.05

**Table 8. Socio Economic Class and Morbidity Distribution among Study Population**

Morbidity	Socioeconomic Class					Total No. (%)	P
	I (n=05)	II (n=22)	III (n=106)	IV (n=133)	V (n=104)		
CVS	2 (40)	6 (27.27)	21 (19.81)	24 (18.04)	12 (11.53)	65 (17.56)	>0.05
Psychosocial	0	10 (45.45)	37 (09.43)	54 (40.60)	37 (35.58)	138 (37.30)	>0.05
Musculoskeletal	0	02 (9.09)	6 (5.66)	14 (10.29)	4 (3.84)	26 (07.03)	>0.05
Respiratory	0	0	6 (5.66)	08 (5.88)	1 (0.96)	15 (04.05)	>0.05
Genitourinary	0	0	3 (2.83)	3(2.20)	1 (0.96)	07 (01.89)	>0.05
GIT	0	0	4 (3.77)	6 (4.41)	2 (1.92)	12 (03.24)	>0.05
Cataract	3 (60)	9 (40.90)	36 (33.96)	44 (32.35)	39 (37.50)	131 (35.40)	>0.05
Hearing impairment	1 (20)	5 (22.72)	25 (23.58)	33 (24.26)	19 (18.26)	83 (22.43)	>0.05
Miscellaneous	2 (40)	3 (13.63)	16 (15.09)	18 (13.53)	7 (6.73)	46 (12.43)	>0.05

Note: To calculate chi square test subjects were considered with  $\leq$  class III and  $>$  class III

### Discussion

The Present study (Table 1) indicates 66.22% were in the age group of 60-69 years and 34.59% were in age group of 60-64 years. Goel PR, Garg SK et al<sup>[3]</sup> reported that age group 60-69 years (47.2%) constituted the major fraction of population followed by 70-79 years (37.8%) . Leena A et al<sup>[4]</sup> reported that around 73% of study population belonged to 60-69 years of age group.

In the present study (Table 2). Maximum 255 (77.03%) were illiterates, among them 162 (56.84%) were from rural area and 123 (43.16%) belonged to urban areas. NSS 2004 study<sup>[5]</sup> indicates that 73.7% of rural elders were illiterates and 41.2% of urban elders were illiterates. Anil Jacob et al<sup>[6]</sup> also reported that 78.7% of study population were illiterates and 21.3% were literates.

In the present study (Table 3). maximum 136 (36.76%) were belonged to Class-IV and followed by 106 (28.65%), 104 (28.11%) in class III and class V respectively. Rahul Prakash et al<sup>[2]</sup> also reported similar results, that out of 300 elders (60+) 29.3% belonged to socioeconomic class-V, 24.6% to class-III. Table 4 Shows that 26 (7.02%) had musculoskeletal problems, among them 17 (9.18%) were from rural area and 9 (4.86%) from urban area.

Bhatia SPS<sup>[7]</sup> reported that including joint pain, musculoskeletal problems were more in 45.7% of subjects. Surekha et al<sup>[8]</sup> reported that muscle skeletal problems were present in 36.8%. Mainly

females were suffering from arthritis and low backache. Other study by Rjashree Bhatt et al<sup>[9]</sup> reported that maximum of study subjects were suffering from locomotors problem (48.6%). Table 5 shows that psychosocial problems were most common i.e. 16 (53.33%) in 75-79 years of age group followed by 35 (44.33%) in the age group of 60-64 years. The relation between age and cataract and also between age and hearing impairment were statistically highly significant ( $p < 0.001$ ) (Table 5). Shraddha K et al<sup>[10]</sup> reported that most common disorder reported among elderly were diseases of the eye (51.7%). Table-06 shows psychosocial problems were more common in females 76 (40.41%) compared to males 62 (34.25%). Association between sex and musculoskeletal problems was statistically significant ( $p < 0.05$ )<sup>[7,8]</sup>.

### Conclusion

The present study has highlighted a high prevalence of morbidity among the geriatric age group. As there is a rapid expansion of geriatric age group and morbidities among them, there is an urgent need to geriatric health care services in developing countries like India and provide training to the health care providers to manage the commonly existing health problems in the community. Regular screening program for detecting chronic morbidities at the earliest should be carried out. Geriatric care should become an integral part of the primary health

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