



## Health Profile of Elderly Persons in Urban and Rural Field Practice Areas of Medical College Himmatnagar, Gujarat

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**Financial Support:** None declared  
**Conflict of Interest:** None declared  
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### How to cite this article:

Banker K, Prajapati BJ, Chauhan J. Health Profile of Elderly Persons in Urban and Rural Field Practice Areas of Medical College Himmatnagar, Gujarat. *Natl J Community Med* 2018; 9(1): 25-28

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**Date of Submission:** 18-07-17

**Date of Acceptance:** 23-01-18

**Date of Publication:** 31-01-18

## ABSTRACT

**Background:** Care of old age people is becomes a big social problem due to urbanization, nuclearisation of family, migration, and dual career. The objective of this study was to assess socio-demographic condition and health problems among elder people in rural and urban population.

**Methods:** This cross-sectional study was carried out in RHTC and UHTC of a Medical College in Himmatnagar during Jan to Sept 2016. House to house survey was carried out and 175 elder individual more than 60 years age were included in the study.

**Results:** 34.9% & 64.6% participants were illiterate and 13.4% & 8.0% were residing alone, 17.2% & 32.6% had restricted mobility, 30.3% & 38.3% had inadequate sleep problems, 22.9% & 27.4% was overweight, higher blood pressure among 57.14% & 37.71% in rural and urban area respectively and mean BMI was  $22.9 \pm 12.82$  &  $23.59 \pm 4.68$  in rural and urban area respectively.

**Conclusion:** Major requirement for interventions to ensure the health of this susceptible group and to initiate a policy to address the care and needs of the disabled elderly.

**Keywords:** Elderly, Morbidity, Social and health problems, Literacy

## INTRODUCTION

Population aged more than 80 years is the fastest growing part in various countries. In 2008, almost 506 million population age above 65 years was present in all over the world which was 7% of the global population and it will almost doubled means 14% in year 2040<sup>1</sup>. In India, the elderly covered around 7% of the total population, of which 66% live in rural area and nearly 50% of them in poor conditions.<sup>2</sup>

Today, care of old age people is becomes a big social problem due to urbanisation, nuclearisation of family, migration, and dual career<sup>2</sup>. Life expectancy in the country has risen in rural as well as urban areas. Life expectancy at birth has risen from 48 years in 1970-75 to 66.3 years in 2009-13, while in urban areas it has risen from 58.9 years to 71.2 years. At the age of 60 years, it has increased from

13.5 to 17.5 years in rural areas and from 15.7 to 19.1 years in urban areas.<sup>3</sup>

A major emerging demographic issue of the 21st century is the ageing of population as an inevitable consequence of the demographic transition experienced by most countries.<sup>4</sup> Older population has grown up due to of advancement in health services; literacy status and economic development. Increasing life length and poor health care leads to increase in disability among the old age resulting in poor mobility, vision, hearing, inability to eat and digest food properly, a decline in memory, the inability to control certain physiological functions, and various chronic conditions<sup>2,5,6,7,8</sup> higher burden of non-communicable diseases also seen in old age in the coming decades.<sup>9</sup> Present study was conducted with the objectives to study the socio-demographic condition and health problems among elder people in rural and urban population.

**MATERIALS AND METHODS**

The survey was carried out in Rural Health Training Center (RHTC) and Urban Health Training center (UHTC) which are the field practice area of GMERS Medical College, Himmatnagar in Gujarat State. This cross sectional study was carried during First January to 30 September 2016 after ethical permission from Institutional Ethical Committee (IEC) of GMERS Medical College, Himmatnagar.

**Sampling Method:** 1<sup>st</sup> Phase: By simple random sampling technique, 500 houses were selected for the house to house survey and primary data collected by pre-design pretested Performa. Study population included the entire old age population age above >60 years from the selected houses of the field practice area of UHTC.

2<sup>nd</sup> Phase: Out of total study population, study included all the elderly people present in house at the time of visit were included in the study of more than 60 years. Investigator found such 175 elder populations in urban area and 186 in rural area.

Data was collected by medical social workers. Training was given before starting study. Pilot study was done before study was started. Periodic cross checking was done by investigator. Consent was taken before starting interview of house. Exclusion criteria were who refuse to give consent. Data entry, cleaning and analysis was done in Microsoft excel 7.

**RESULTS:**

Table 1 shows that 75.3% and 86.9% participants were belong to age group 60 to 70 years in rural and urban area respectively. Mean age of rural participants was statistically significant higher than the urban participants. Study included 51.6% & 47.0% male participants and 96.2% & 97.1% Hindu participants in rural & urban area respectively. But the difference in religion and gender was statistically not significant. Almost 19.4% & 30.2% participants were widow or widower in rural & urban area respectively and the difference was statistically not significant. Around 12.9% & 4.0% participants connected with government service and 50.0% & 55.4% participants were depend on their son's income in rural & urban area respectively and the difference was statistically significant. Almost 24.2% & 48.0% participants have any type of addiction in rural & urban area respectively and the difference was statistically significant.

Around 34.9% & 64.6% participants were illiterate (p<0.05). Almost 4.0% % 8.0% were residing alone in rural & urban area respectively and the difference was statistically not significant.

**Table 1: Socio-demographic information of participants (N=300)**

Variable	Rural (n=186)	Urban (n=175)	P value
Age (in years)			
60-70	140 (75.3)	152 (86.9)	0.04**
70-80	32 (17.2)	21 (12.0)	
>80	14 (7.5)	2 (1.1)	
Mean Age (Mean ± SD)	66.9±7.08	65.6±5.81	
Gender			
Male	96 (51.6)	82 (46.9)	0.4*
Female	90 (48.4)	93 (53.1)	
Male: Female ratio	01:00.9	01:01.1	
Religion			
Hindu	179 (96.2)	170 (97.1)	0.8*
Muslim	7 (3.8)	5 (2.9)	
Marital Status			
Married	148 (79.3)	121 (69.2)	0.04*
Widow/widower	36 (19.4)	53 (30.2)	
Divorcee	2 (1.1)	1 (0.6)	
Occupation			
Government Service	24 (12.9)	7 (4.0)	0.007*
Skilled Worker	5 (2.7)	11 (6.3)	
Unskilled worker	80 (43.0)	73 (41.7)	
Housewife	77 (41.4)	84 (48.0)	
Income Source			
Pension	29 (15.6)	11 (6.3)	0.04*
Private Property	36 (19.4)	41 (23.4)	
Relatives	16 (8.6)	18 (10.3)	
Son	93 (50.0)	97 (55.4)	
No Source	12 (6.5)	8 (4.6)	
Addiction			
Chikhani	14 (7.5)	21 (12.0)	0.0001*
Cigarette / Bidi	11 (5.9)	19 (10.9)	
Tobacco Chewing	18 (9.7)	40 (22.9)	
Drinking	2 (1.1)	4 (2.3)	
None	141 (75.8)	91 (52.0)	
Education			
Primary	67 (36.0)	33 (18.9)	0.001*
Secondary/Higher secondary	50 (26.9)	25 (14.3)	
Graduate and above	4 (2.2)	4 (2.3)	
Illiterate/Just illiterate	65 (34.9)	113 (64.6)	
Family History of illness			
Present	173 (96.2)	161 (92.0)	0.008*
Absent	13 (7.0)	14 (8.0)	
Family Member			
Present	161 (86.6)	161 (92.0)	0.1*
Alone	25 (13.4)	14 (8.0)	
Loss of spouse			
Yes	85 (45.7)	81 (46.3)	0.9*
No	101 (54.3)	94 (53.7)	

Figure in parenthesis indicate percentage

Table 2 shows comparison of physical fitness of rural and urban geriatric population. Almost 17.2% & 32.6% participants had restricted mobility (p<0.05) and 40.3% & 38.3% participants had inadequate sleep problems (p>0.05) and 26.9% & 29.1% participants had appetite problems (p>0.05) in rural & urban area respectively. Around 39.8% & 49.7% had been using spectacles, 11.3% & 4.6% had been using walker/walker sticks in rural & urban area

respectively ( $p < 0.05$ ). Most common physical complain observed by study was Bodyache (45.2% & 43.4%), Joint pain (26.3% & 33.7%), Weakness (24.2% & 28.0%), Impaired vision (23.1% & 27.4%) in rural & urban area respectively ( $p < 0.05$ ).

**Table 2: Physical activities status of participants (N=300)**

Variables	Rural (n=186)	Urban (n=175)	P Value
Mobility			
Restricted/reduced	32 (17.2)	57 (32.6)	0.001
Normal	154 (82.8)	118 (67.4)	
Personal Hygiene			
Bad	6 (3.2)	85 (48.6)	0.001
Good	180 (96.8)	90 (51.4)	
Sleep			
Inadequate	75 (40.3)	67 (38.3)	0.7
Adequate	111 (59.7)	108 (61.7)	
Appetite			
Decreased	32 (17.2)	38 (21.7)	0.4
Increased	18 (9.7)	13 (7.4)	
Normal	136 (73.1)	124 (70.9)	
Use of Aids			
Spectacles	74 (39.8)	87 (49.7)	0.01
Denture	5 (2.7)	4 (2.3)	
Walker/Walking sticks	21 (11.3)	8 (4.6)	
Knee Cap	17(9.1)	28 (16.0)	
None	69 (37.1)	48 (27.4)	
Physical Complain			
Bodyache	84 (45.2)	76 (43.4)	0.001
Joint pain	49 (26.3)	59 (33.7)	
Weakness	45 (24.2)	49 (28.0)	
Breathlessness	15 (8.1)	38 (21.7)	
Headache	11 (5.9)	12 (6.9)	
Constipation	2 (1.1)	19 (10.9)	
Impaired Hearing	6 (3.2)	3 (1.7)	
Edema	5 (2.7)	8 (4.6)	
Dental Problems	26 (14.0)	16 (9.1)	
Impaired Vision	43 (23.1)	48 (27.4)	

Figure in parenthesis indicate percentage

Almost 21.7% & 14.3% population was underweight, 22.9% & 27.4% was overweight and 4.6% & 9.1% was obese in rural and urban area respectively. Mean BMI was  $22.9 \pm 12.82$  &  $23.59 \pm 4.68$  in rural and urban area respectively ( $p < 0.05$ ). Study found higher blood pressure among 57.14% & 37.71% participants in rural and urban area respectively ( $p > 0.05$ ). Around 73.6% & 26.9% have normal hair, 40.0% & 48.0% normal teeth, 28.0% & 54.3% have normal tongue appearance, 73.1% & 70.3% normal nail, 69.1% & 28.6% have wasting of muscle, 84.6% & 66.9% had no joints related deformities in rural and urban area respectively ( $p > 0.05$ ). Study observed skin related disease among 2.3% & 16.0% participants in rural and urban area respectively ( $p > 0.05$ ). Almost 41.7% & 36.0% participants were operated for cataract surgery in rural and urban area respectively ( $p > 0.05$ ). Around 1.2% were complete blind in rural area and 1.7% & 4.0% had

night blindness problem in rural and urban area respectively ( $p > 0.05$ ). Around 20.6% & 16.0% had hearing problem in rural and urban area respectively ( $p > 0.05$ ).

## DISCUSSION

Urbanization, migration, industrialization, population explosion leads to more elderly people in rural areas when the adult migrate to the urban area in search of occupation. This is reflected in the higher proportion of elderly in the rural area compared with the urban area.<sup>9</sup>

Highest population was belonged to age group 60 to 70 years age group which is followed by 70-80 years and more than 80 years age group both in rural & urban area respectively. Mean age of rural participants was more than urban participants. This finding is not correlated with the central statistics office report<sup>10</sup> 2011 on situation analysis of elderly population in India and it said that life expectancy of urban population is higher than the rural population. Male female ratio was 1:0.93 & 1:1.13 in rural and urban area respectively. According to National Sample Survey Organization<sup>11</sup> only 50% of elderly men and 20% of women aged 60 years or more were literate. Present study observed that more than 3/5<sup>th</sup> population in rural & urban population was illiterate. Study observed 2/5<sup>th</sup> and 1/3<sup>rd</sup> widow/widowers among study population and 52.0% & 55.4% population depend on son income in rural and urban population respective which shows higher number of dependency ratio which potential to adversely affect the health of elderly population who require emotional & social support from their spouse and son. WHO study<sup>12</sup> carried out at 10 sites all over India, covering 10,035 individuals over 60 years of age from rural and urban areas, indicated that widows, particularly in rural areas, outnumbered widowers.

Present study observed living status alone among rural population than urban population and this findings are correlate the similar study done by Thakur RP et al<sup>9</sup>, Padda AS et al<sup>13</sup>, Singh C et al<sup>14</sup>, Polisetty S et al<sup>15</sup>, Lena A et al<sup>2</sup> & report<sup>3</sup> "Elderly in India" of 2016 of central statistics office of government of India. This may be due to reverse migration of elders from urban to rural areas, after they lose their jobs due to age. Living alone, which can be taken as a surrogate measure of loneliness and can be a strong risk factor for under-nutrition among older people.<sup>9?</sup>

Population Census 2011<sup>16</sup> data reveal that Locomotor disability and visual disability are the most prevalent disabilities among elderly persons. Almost half of the elderly disabled population was reported to be suffering from these two types of

disabilities. Present study observed joint repalted deformities and muscle wasting more among rural than urban participants. Similarly other health problems like Bodyache, weakness, breathlessness, headache, constipations, hearing & visual problems and dental problems observed almost same among rural and urban population. Higher prevalence of visual problem can be tackle by recruitment of ophthalmic assistant in each public health facility, availability of cataract surgery, general health survey and education. All this findings are also observed in WHO multi-centric study<sup>12</sup>. Present study observed higher prevalence of overweight & obesity among urban than rural participants which is correlate with similar study done by Niranjan GC et al<sup>17</sup>, Thakur RP et al<sup>9</sup>. This is indicating impact of urbanization and sedentary lifestyle even in the elderly. Sedentary lifestyle with obesity increases the incidence of many non-communicable diseases in the elderly, such as coronary heart disease, diabetes and osteoarthritis.

### Limitation of study

Sample number was selected by purposive sampling. Similar study should be done with larger sample size to explore association between different variables which is not done by present study.

Study selected sample from the village/slum nearest to the health facility (RHTC & UHTC) which may have some amount of selection bias in the sample. Slum/village nearest to the health center may have more access to health services, and their morbidity may be less compared with more remote slums or villages. This may, to some extent, limit external validity of the study.

In the study most morbidity was elicited by simple questions, self-reporting and clinical examination, without confirmation by sophisticated laboratory tests or other costly investigations. This may underestimate the morbidity because early or sub-clinical cases may be missed. This may have affected the internal validity of the study. Morbidity may have been underestimated.

### CONCLUSION

Present study observed higher prevalence of loneliness, dependency ratio, restricted mobility, inadequate sleep, appetite problem, joint pain, impaired vision & hearing,, dental problems, obesity (in urban) and high blood pressure. There is a major requirement for interventions to ensure the health of this susceptible group and to initiate a policy to address the care and needs of the disabled elderly. There is also required larger study

with larger sample size to explore the problems among elder population.

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