

## Original Research Article

**A Comparative study of the Socio demographic and activity profile of elderly residing in Old Age Homes and in the Community of Rajkot, Gujarat, India****Dr. Dipeshkumar D. Zalavadiya<sup>1</sup>, Dr. Anupam Banerjee<sup>2</sup>, Dr. Niravkumar B. Joshi<sup>1</sup>, Dr. Chirag N. Bhola<sup>3</sup>, Dr. Ankit M. Sheth<sup>4</sup>, Dr. Matib Rangoonwala<sup>5</sup>**<sup>1</sup>Tutor, Department of Community Medicine, PDU Government Medical College, Rajkot, Gujarat<sup>2</sup> Assistant Professor, Department of Community Medicine, PDU Government Medical College, Rajkot, Gujarat<sup>3</sup> Program Officer (MNH), Jhpiego, Rajsamand, Rajasthan<sup>4</sup> Tutor, Department of Community Medicine, GMERS Medical College, Gandhinagar, Gujarat<sup>5</sup> Program Officer (MNH), Jhpiego, Narsinghpur, Madhya Pradesh**\*Corresponding author**

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**Abstract:** The world population is rapidly ageing. Between 2000 and 2050, the proportion of the world's population aged over 60 years will double from 11% to 20%. In the absence of joint family system and nuclearisation of families with one or two children and due to the increased physical and economic dependence, more and more elders are compelled to stay in old age homes. This study was carried out among all the 88 elderly inmates ( $\geq 60$  years) residing in all the six OAHs of Rajkot city and 180 elderly persons from the community. The difference between the two groups was analyzed using Chi Square test and Mann Whitney U test (Wilcoxon Rank Sum test) as applicable. In the old age homes 76.7% elderly males and 55.2% females were 'young old' as compared to 84.4% males and 82.5% females in the community. No elderly residing in the old age homes was 'currently married' compared to 58.9% elderly in community. In the old age homes 5 (2.6%) elderly were not involved in any recreational activities as against 29 (16.1%) from the community. Very few elderly in both the settings were pursuing exercise, yoga and meditation. The elderly in both the settings needs to be engaged in different productive and recreational activities to improve quality of life.

**Keywords:** Old age home, Community, Elderly, Recreational activity.

**INTRODUCTION**

Ageing which was previously regarded as emerging trend mainly in the industrial countries is now recognized as a global phenomenon. The United Nations has identified ageing among the top three socioeconomic issues (global warming, global terrorism and global ageing) that the world is facing in the 21<sup>st</sup> century[1].

The world population is rapidly ageing. Between 2000 and 2050, the proportion of the world's population aged over 60 years will double from 11% to 20%. The absolute number of people aged 60 years and above is expected to increase from 605 million to over 2000 million during the same period[2]. India ranks fourth in terms of shouldering the growing numbers of elders. The population over the age of 60 years has tripled in last 50 years in India. As per National Program of the Health Care of Elderly, the proportion of older people would increase to 8.94% in 2016[3].

The 'old-age dependency ratio' climbed from 10.9% in 1961 to 13.1% in 2001 for India as a whole. About 65% of the aged had to depend on others for their day-to-day maintenance. In age-groups beyond 60 years, the percentage of elderly women married was markedly lower than the percentage of men married[4].

Elderly people make invariable socio-economic contribution to the society. For example, they do help with special family work such as caring for young children, food preparation and looking after animals. This helps in freeing younger people for other productive activities. However, an individual's functional ability determines, to a greater extent, his/her contribution[5]. After retirement, elderly indulge in different types of activity which affect their physical and mental health.

As the majority of elderly in India are illiterate, their living conditions depend upon their co-residence with children and/or their ability to work and earn an income beyond the officially designated age of retirement[6].

In the absence of joint family system and nuclearisation of families with one or two children and due to the increased physical and economic dependence, more and more elders are compelled to stay in old age homes.

The growth and development of Old Age Homes (OAHs) had begun in 1901 in India. However, the OAH still remains inadequate to meet the needs of the elderly[7]. Very few studies have been undertaken in India to compare the situation of elderly living in old age homes with those living in the community. In this context, the present study was conducted to compare socio demographic and activity profile of elderly residing in old age homes versus those living in the community.

#### **MATERIAL AND METHODS**

This cross sectional study was conducted among all those elderly residing in all the six OAHs of Rajkot city during November 2012 to August 2013. For selection of 'elderly', the definition of the United Nations (which is persons aged 60 years and more) had been used in the study[8]. The inclusion criterion for selection of the participants was all those elderly who were 60 years and more and not having any demonstrable difficulty in hearing, speech or understanding. This was especially kept to reduce any bias arising during the detailed interview of the respondent. For comparison purpose, the elderly residing in the city of Rajkot were selected. Rajkot city has been divided by the Municipal Corporation into three zones: East, Central and West. All the zones had been included in the study. For proper representation across all the socioeconomic levels, two 'slum/semi slum' areas and two 'non-slum' areas were selected from each zone by random selection method using computer generated random numbers. Thus from each zone, 4 areas were selected. In this way a total of 12 areas of Rajkot city were selected for the study.

A total of 88 'elderly' inmates from all the six OAHs could be selected for the study as per the inclusion criteria. For comparative purpose, it was decided to select double the number of elderly (as that obtained from the OAHs) from the city. Hence a total of 176 elderly would need to be selected from the 12 areas. For uniform selection of elderly persons from the 12 areas of the city, a total 180 elderly persons had to be taken from the community. Hence, from each area 15 elderly persons were selected to achieve a total of 180 elderly persons in the 12 areas. In all, 268 elderly

were studied out of which, 88 elderly persons were from the OAHs and 180 elderly persons were from the community. After reaching the approximate geographical center point of the selected slum/semi-slum/non-slum area, the first nearest household on the East direction was selected as the starting point of the survey. All the elderly persons who usually resided in the household were covered. In case an elderly person was not physically present at the time of visit, a second visit was carried out. If the person was again absent then, he/she was omitted from the study. If a particular household did not have any eligible elderly person, the next adjacent household was visited. In this way the households were visited until 15 elderly were obtained from one area.

Written intimation to the concerned authority of the OAHs was given. Written informed consent from the participants was obtained. All the participants were free to withdraw at any stage of the study. A pre-tested semi-structured questionnaire was used for collection of data.

The data was entered and analyzed in Epi Info version 3.5.1. (CDC, Atlanta) software [9]. The descriptive statistics and the difference between the two groups were analyzed by using Chi Square test. Mann Whitney U test (Wilcoxon Rank Sum test) was used for comparison of median values of two groups having continuous variable but following 'non- normal distribution' or having 'unequal variances'. The test was applied using freely available online statistical software[10].

#### **RESULTS AND DISCUSSION**

In the old age homes 76.7% elderly males were 'young old' as compared to 84.4% in the community. The median age of males residing in the old age homes was 72 years with a range of 60 – 85 years, while in the community; it was 67 years with a range of 60 – 83 years. Mann Whitney U test showed this difference between median ages of males of two groups to be statistically highly significant ( $z = 2.633$ ,  $p=0.008$ ). In the old age homes 55.2% elderly females were 'young old' as compared to 82.5% in the community. The median age of females residing in the old age homes was 71.5 years with a range of 61 – 105 years, while in the community; it was 67 years with a range of 60 – 93 years. Mann Whitney U test showed this difference between median ages of females of two groups to be statistically highly significant ( $z = 4.499$ ,  $p=0.00$ ). In a study done by Pai MK[11], the median age of elderly from old age homes and from community was 71.5 years and 66.5 years respectively.

No elderly residing in the old age homes was 'currently married'. The majority were 'widow' (50, 56.8%), followed by 'unmarried' (20, 22.7%), and

‘widower’ (14, 15.9%). In the community maximum of the elderly were ‘currently married’ (106, 58.9%), followed by ‘widow’ (55, 30.6%), and ‘widower’ (15, 8.3%). Overall, more ‘widow’ and ‘widower’ were there in the old age homes (72.7%) as compared to the elderly living in the community (38.9%) and the difference was statistically highly significant ( $p = 0.00$ ). Similar findings were found in a comparative study on women by Beevi JS[12]: majority of women from old age homes were widow (49.5%) and single (42.9%); while in the community 64.4% were widow and 29.6% were married.

The observation of predominant past occupation revealed that in the old age homes 42 (47.7%) were housewives, 14 (15.9%) were farmers, 13 (14.8%) were involved in private job. In the community 82 (45.6%) were housewives, 28 (15.6%) had own business, 22 (12.2%) were farmers. In a study by Das NP *et al.* [13] done in old age homes, 21.4% were ‘housewives’; 63.6% were found ‘employed’ (18.9% were in ‘professional and related services’, 3.9% had ‘own business’, 9.9% were ‘skilled worker’ and 8.6% were ‘labourer’ and 15% were ‘unemployed’. In the old age homes, 48 (54.5%) were illiterate, 29 (33%) had education up to primary level, 8 (9.1%) had up to secondary level while in the community, 78 (43.3%) were illiterate, 50 (27.8%) had education up to primary level. In a study done by Beevi JS[12], only 27.6% elderly in old age homes and 28.2% elderly in community were found illiterate.

In the old age homes 5 (2.6%) elderly were not involved in any recreational activities as against 29 (16.1%) from the community. 74 (84.1%) elderly from the old age homes were involved in talking to each other (elderly) as against 128 (71.1%) from the community: 56 (63.3%) elderly from the old age homes were listening to music as against 36 (20%) from the community: 25 (28.4%) from the old age homes were reading books or magazines as against 25 (13.9%) from the community: 19 (21.6%) elderly from the old age homes were watching television as against 115 (63.9%) from the community. 21.6% elderly from old age homes were involved in voluntary service as compared to 6.7% in community and the difference was statistically highly significant. Very few elderly in both the settings were pursuing exercise, yoga and meditation. Not much difference was observed for numbers of daily prayers: 64 (72.2%) from old age homes and 120 (66.7%) from community were praying daily. In a similar comparative study done by Dubey A *et al.*[14], proportionately more elderly from the community were involved in reading books or magazines (43.3% against 6.6% respectively) and watching television as compared to inmates of old age homes: (33.3% against 30% respectively). Comparatively lesser numbers of elderly from the community were involved in listening to music (23.3% against 33.3%) and talking to others (53% against 63.3%) than those of the residents of old age homes.

**Table 1: Age and Sex wise distribution of elderly persons**

Age Group (Years)	Old Age Homes				Community			
	Male		Female		Male		Female	
	No.	%	No.	%	No.	%	No.	%
Young old (60 – <75)	23	76.7	32	55.2	65	84.4	85	82.5
Old – old (75 - <85)	6	20	18	31	12	15.6	10	9.7
Very old (≥85)	1	3.3	8	13.8	0	0	8	7.8
<b>Total</b>	<b>30</b>	<b>100</b>	<b>58</b>	<b>100</b>	<b>77</b>	<b>100</b>	<b>103</b>	<b>100</b>
<b>Median(Range)</b>	<b>72 (60 – 85)</b>		<b>71.5 (61 – 105)</b>		<b>67 (60 – 83)</b>		<b>67 (60 – 93)</b>	
<b>Males (OAH vs. Community): Mann Whitney U test: <math>z = 2.633, p = 0.008</math></b>								
<b>Females (OAH vs. Community): Mann Whitney U test: <math>z = 4.499, p = 0.00</math></b>								

**Table 2: Current marital status of elderly persons**

Current marital status	Old Age Homes		Community	
	No.	%	No.	%
Married	0	0	106	58.9
Unmarried	20	22.7	2	1.1
Widow	50	56.8	55	30.6
Widower	14	15.9	15	8.3
Divorced	2	2.3	1	0.6
Separated	2	2.3	1	0.6
<b>Total</b>	<b>88</b>	<b>100</b>	<b>180</b>	<b>100</b>
<b>Widow &amp; Widower vs. others: <math>\chi^2 = 27.07, df = 1, p = 0.00</math></b>				
<b>Widow vs. others for females: <math>\chi^2 = 17.60, df = 1, p = 0.00</math></b>				
<b>Widower vs. others for males: <math>\chi^2 = 8.06, df = 1, p = 0.004</math></b>				

**Table 3: Predominant past occupation and education status of elderly persons**

	Old Age Homes (n=88)		Community (n=180)	
	No.	%	No.	%
<b>Predominant past occupation</b>				
Government job	1	1.1	16	8.9
Private job	13	14.8	12	6.7
Laborer	9	10.2	19	10.6
Farmer	14	15.9	22	12.2
Own business	5	5.7	28	15.6
Housewife	42	47.7	82	45.6
No employment	4	4.5	1	0.6
<b>Education status</b>				
Illiterate	48	54.5	78	43.3
Primary	29	33.0	50	27.8
Secondary	8	9.1	33	18.3
Graduate and Post Graduate	3	3.4	19	10.5

**Table 4: Activities pursued on a daily basis by elderly persons**

Activity	Old Age Homes (N=88)	Community (N=180)	$\chi^2$ value
Music	56 (63.6%)	36 (20%)	$\chi^2 = 49.92$ , df = 1, p = 0.00
Television	19 (21.6%)	115 (63.9%)	$\chi^2 = 42.29$ , df = 1, p = 0.00
Reading books/magazines	25 (28.4%)	25 (13.9%)	$\chi^2 = 8.21$ , df = 1, p = 0.004
Talking to other elderly	74 (84.1%)	128 (71.1%)	$\chi^2 = 5.37$ , df = 1, p = 0.021
Pray	64 (72.7%)	120 (66.7%)	$\chi^2 = 1.01$ , df = 1, p = 0.31
Voluntary service	19 (21.6%)	12 (6.7%)	$\chi^2 = 12.87$ , df = 1, p = 0.00
Exercise	2 (2.3%)	15 (8.3%)	$\chi^2 = 3.65$ , df = 1, p = 0.06
Gardening	2 (2.3%)	1 (0.6%)	-----
Playing cards	0 (0%)	6 (3.3%)	-----
Yoga	0 (0)	2 (1.1%)	-----
Meditation	1 (1.1%)	6 (3.3%)	-----
No activity	5 (2.6%)	29 (16.1%)	$\chi^2 = 5.8$ , df = 1, p = 0.01

**CONCLUSION**

The elderly in old age homes were more aged compared to community. In both the settings more women were found compared to men. The elderly in both the settings needs to be engaged in different productive and recreational activities to improve quality of life.

**STUDY LIMITATIONS**

Persons with demonstrable hearing, understanding or speech impairment were excluded from the study. Study area was exclusively in an urban set up.

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