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### Original Article

# Comparison of Physical Activity, Depression and Quality of Life in Geriatric Population Living in Old Age Home and Community

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### ABSTRACT

To find the comparison between physical activity, depression and quality of life in elderly living in old age homes and communities. A cross-sectional survey study of 300 participants fulfilling the inclusion and exclusion criteria by convenience sampling was conducted in geriatric population from age 65-85 years. Comparison of physical activity, depression and quality of life was done in geriatric population. Inclusion Criteria: -Males and Females, 65-85 years of age. Exclusion Criteria: -Subjects having any neurological conditions, severe orthopedic conditions, vision hearing loss, severe respiratory disorders and suffering from terminal disease and dementia. Mean GDS score for Group A was  $5.68 \pm 3.6$  and Group B was  $2.88 \pm 1.41$ . Difference in mean GDS between the groups was  $4.28 \pm 3.63$  ( $U=5.982$ ,  $p<0.001$ ). Mean IPAQ score for Group A was  $1905 \pm 2604$  MET and Group B was  $2552 \pm 2145$  MET. Difference in mean IPAQ between the groups was  $2229 \pm 2459$  MET ( $U=8.724$ ,  $p<0.001$ ). Mean OPQOL for Group A was  $126.6 \pm 15.5$  and Group B was  $142.9 \pm 13.4$ . Difference in mean OPQOL between the groups was  $16.3 \pm 2.1$  ( $U=5.322$ ,  $p<0.001$ ). The present study concluded that geriatric population living in old age homes is more depressed and has low level of physical activity than elderly living in community. This shows that elderly living in community have better quality of life than elderly living in old age homes

**Keywords:** Geriatric population; Physical Activity; Depression and Quality of life

### INTRODUCTION

Geriatric is defined as a branch of medicine which deals with the diseases, disabilities and care of aged person. An elderly is defined as 65 years of age or above. Three groups have been identified<sup>1</sup> Healthy aging is much more than increasing the number of health life-years without any activity limitation and stability or disease.<sup>2</sup>

Physical activity is defined as any bodily movement produced by skeletal muscles that results in energy expenditure it may include anything from walking and gardening to recreational sport. Physical activity has well-known benefits for several chronic disorders,<sup>3,4</sup> including coronary artery disease, stroke, diabetes mellitus, and osteoporosis.

Evidence states that physical activity may delay cognitive loss and impairment is more equivocal in clinical settings, beneficial effects of physical fitness interventions on memory and other aspects of cognition have been documented in elderly persons.<sup>5,6</sup>

Depression is more than just fearfulness or feelings of sadness which may appear either without warning or for no obvious reason or following crisis such as bereavement, the break-up or loss of job. It refers to a range of mood and other symptoms that are intense, long-lasting and distressing to the person. These symptoms will likely interfere with a person's day-to-day life and relationships. Depression affects a person's thoughts, behavior, feelings and sense of wellbeing.<sup>7</sup>

Physical activity forms an essential part of defining one's quality of life, but it often declines with increasing age. Hence it is important to find an easy and a reliable, validated technique for evaluation of fitness in this age group.<sup>8</sup>

### AIMS AND OBJECTIVES

To find the comparison between physical activity, depression and quality of life in elderly living in old age homes and communities.

1. To find comparison of physical activity in between elderly living in community and elderly living in old age home
2. To find comparison of depression in between elderly living in community and elderly living in old age home
3. To find comparison of quality of life in between elderly living in community and elderly living in old age home

## MATERIALS AND METHODOLOGY

- Study Design: Cross-sectional Survey
- Study Setting: Old age homes for institution based geriatric population, Department of Physiotherapy Ahmedabad, Community Homes & Gardens for community dwelling geriatric population in Ahmedabad
- Sample Size: 300
- Duration of study :6 months

### Inclusion Criteria

1. Males and Females, 65-85 years of age

### Exclusion Criteria

1. Subjects having any neurological conditions, severe orthopedic conditions vision and hearing loss and severe respiratory disorders.
2. Subjects who were too ill suffering from terminal disease and dementia

### Outcome Measures

1. Geriatric Depression Scale (GDS)
2. International Physical Activity Questionnaire in Elderly (IPAQ-E)
3. Older People's Quality Of Life Questionnaire (OPQOL-35).

### Procedure

Participants were taken from two groups.

- Group A: Old Age Home
- Group B: Community

Nature and purpose of study was explained to the participants. Written informed consent was obtained from participants prior to the study. All the participants were approached at their respective places. Printed version of questionnaires was given to them. Instructions regarding the questionnaires were provided. Participants were asked to fill the questionnaire.

Questionnaire (Annexure had Consent form, Proforma and all the three questionnaire)

The initial part had demographic data which included name, age, gender, marital status, socio-economic condition, family support and other medical problems.

Statistical Analysis was done using SPSS version 16 and Microsoft Excel 2010. Prevalence of depression and physical activity were analyzed using percentage. Prior to the statistical tests data was screened for normal distribution using histogram with normal curve.

Level of significance was kept at 5%.

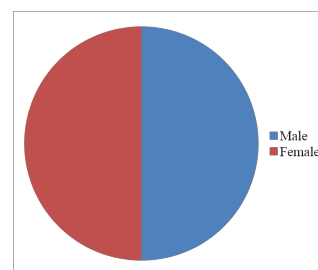
## RESULTS

The present study was conducted on three hundred geriatric subjects (Group A :150 and Group B :150) to find comparison of physical activity depression and quality of life in subjects living in old age home and community. Physical activity, depression and quality of life were assessed using International Physical Activity Questionnaire Elderly (IPAQ-E), Geriatric Depression Scale (GDS) and Older People's Quality of Life Questionnaire (OPQOL).

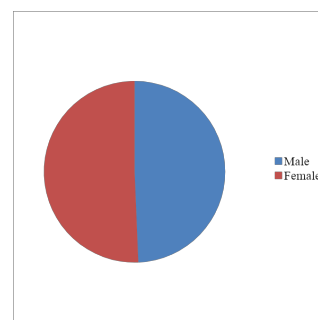
Table 1 and Graphs 1 and 2 shows demographic details for older people with their mean age.

**Table 1: Demographic details of older people**

Setting	Male (Age)	Female (Age)	Mean $\pm$ SD (years)
Community	74	76	73.78 $\pm$ 5.85
Old Age Home	75	75	71.25 $\pm$ 5.02



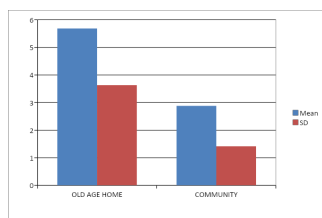
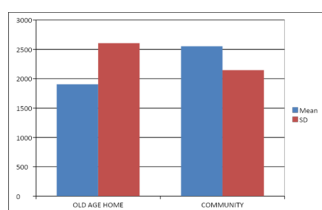
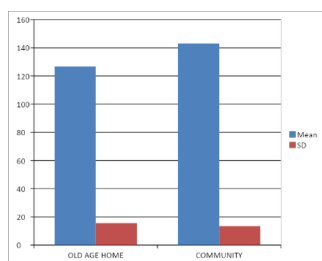
**Graph 1: Gender distribution of participants from Community**



**Graph 2: Gender distributions of participants from Old Age Homes**

**Table 2: Mean and Median of GDS, IPAQE and OPQOL**

Outcome Measure	Mean $\pm$ SD	Median
GDS	4.28 $\pm$ 3.63	3
IPAQE	2229 $\pm$ 2459	1262.5
OPQOL	134.8 $\pm$ 30.4	135

**Graph 3: Mean difference in GDS of both the groups****Graph 4: Mean differences in IPAQE of both the groups****Graph 5: Mean differences in OPQOL of both the groups****Table 3: Meanscore of outcome measures of both the groups**

Outcome Measures	Old Age Home	Community
GDS	5.68 $\pm$ 3.6	2.88 $\pm$ 1.41
IPAQE	1905 $\pm$ 2604	2552 $\pm$ 2145
OPQOL	126.6 $\pm$ 15.5	142.9 $\pm$ 13.4

**Table 4: Mean difference in outcome measures between groups**

Outcome Measures	Mean Difference	U	P
GDS	2.8 $\pm$ 2.1	5.982	<0.001
IPAQ-E	647 $\pm$ 459	8.724	<0.001
OPQOL	16.3 $\pm$ 2.1	5.322	<0.001

## DISCUSSION

Mann-Whitney test was used to compare mean difference in outcome measures between the two groups old age homes and community residing older individuals. Mean GDS score for Group A was 5.68 $\pm$ 3.6 and Group B was 2.88 $\pm$ 1.41. Difference in mean GDS between the groups was 4.28 $\pm$ 3.63 (U=5.982, p<0.001). Mean IPAQE score for Group A was 1905 $\pm$ 2604 MET and Group B was 2552 $\pm$ 2145 MET. Difference in mean IPAQE between the groups was 2229 $\pm$ 2459 MET (U=8.724, p<0.001). Mean OPQOL for Group A was 126.6 $\pm$ 15.5 and Group B was 142.9 $\pm$ 13.4. Difference in mean OPQOL between the groups was 16.3 $\pm$ 2.1 (U=5.322, p<0.001)

In 2020 Hyun-Ju Lee et al. conducted a convergent parallel mixed –method approach on Health-related quality of life in South Korean community-dwelling older adults with multimorbidity. He concluded that community-based programs and health promotion projects that consider psychological states (e.g., depression) are needed to boost the HRQoL of individuals with multimorbidity.<sup>9</sup>

In 2019 Jiayi Gu et al. conducted a longitudinal study and concluded that multimorbidity was associated with lower HRQoL of the community-dwelling elderly. Distinct multimorbidity patterns had various impacts on different dimensions of HRQoL. Further studies should be carried out to investigate effective measures to improve HRQoL of the elderly with multimorbidity.<sup>10</sup>

In 2019 Pilania et al. conducted a systematic review and concluded that about one third elderly population of India suffered from depression with female preponderance. The estimates varied with type of study tool, geographic region, sampling methods, and presence of dementia.<sup>11</sup>

In 2019 Deepthi Karini et al. conducted a comparative study of depression among the elderly living in old age homes and community in Visakhapatnam. They concluded that high prevalence of depression is observed among the studied population indicates the need of screening for depression among elderly.<sup>12</sup>

In 2017 Biswajit et al. conducted a cross-sectional study based on country-representative data obtained from WHO's World Health Survey. They concluded that lower frequency of vigorous physical activity were significantly associated with higher rates of depression diagnosed. Based on the findings, it is recommendable that health programs targeting mental health among middle- and older-aged population take steps to promote the level of PA within a multi-dimensional depression prevention framework. Longitudinal studies are needed to understand the role of vigorous and moderate physical activity on the onset and intervention of depression among elderly population in the region.<sup>13</sup>

In 2015 Chandrika et al. found that mean scores of QOL domains in physical and social domains were better in elderly living in community than Old Age Homes where

as the QOL in domain environmental was better in elderly living in OAHs than community. Least scores were obtained on social domain among elderly compared to rest of domains irrespective of place of stay. These findings are similar to present study.<sup>14</sup>

In 2015 U. Mohan et al. studied depression among elderly people living in community and in old age homes, and he found that elderly living in the old age home are more depressed than elderly living in community which is similar to present study.<sup>15</sup>

## LIMITATION

- In this study, the subjects from young old group (65-75 years of age) were more than middle old age group (75-85 years of age). This study does not include old-old group (more than 85 years of age).
- Data of antidepressants was not taken in present study.
- Detail about visit of friends or family to the inmates was not taken in present study.

## CONCLUSION

The present study concluded that geriatric population living in old age homes is more depressed and has low level of physical activity than elderly living in community. This shows that elderly living in community have better quality of life than elderly living in old age homes

## CLINICAL IMPLICATION

The present study suggests that physical activity level in elderly can be increased living in old age homes which may reduce depression and improve quality of life.

## FUTURE SCOPE

Future studies evaluating correlation of physical activity and depression in elderly, physical activity and fear of fall and physical activity and quality of life can be conducted.

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