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COMPARISON OF FUNCTIONAL MOBILITY, COGNITIVE FUNCTION AND QUALITY OF LIFE IN COMMUNITY DWELLING ELDERLY AND INSTITUTIONALISED ELDERLY IN SUBURBAN

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ABSTRACT

Background: Aging is a universal process that often leads to shifts in living arrangements, such as moving to old age homes due to urbanisation and changing family structures. **Objective:** To compare functional mobility, cognitive function, and quality of life (QoL) between community-dwelling and institutionalised elderly in a suburban area. **Methods:** A cross-sectional study was conducted with 66 participants (aged 65+) from Thane City. Assessment tools included the Elderly Mobility Scale (EMS), Mini-Mental State Examination (MMSE), and SF-12 form. **Results:**Institutionalised elderly showed significantly higher rates of mobility dependency (72.7%) compared to community-dwelling elderly (36.4%, p=0.012). Severe cognitive impairment was also more prevalent in old age homes (66.7%) than in those living with family (42.4%, p=0.043). Quality of life was markedly lower in the institutionalised group (81.8% below average) compared to the community group (p=0.013). **Conclusion:** Elderly individuals living with family experience better physical, cognitive, and emotional well-being compared to those in institutional care.

KEYWORDS: Geriatric health, Functional mobility, Cognitive impairment, Quality of life, Old age homes.

INTRODUCTION

Aging is a continuous, irreversible process marking the final phase of the human life cycle. India currently has the second-largest elderly population globally, with numbers expected to reach 130 million by 2021. While the traditional Indian family system has historically provided strong support, modernisation and the shift toward nuclear families have forced many older adults into institutional settings. This transition often impacts their functional independence and cognitive health. This study aims to evaluate the differences in these parameters within the suburban context of Thane City. family has been the primary source of care and material support for the older adults throughout Asia. And, the Indian family system is often held at high position for its qualities like support, strength, duty, love, and care of the elderly. The responsibility of the children for their parents′ wellbeing is not only recognized morally and socially in the country, but it is a part of the legal code in many states in India. But urbanization, modernization, industrialization, and globalization have brought major transformations in the family in the form of structural and functional changes. As a result of these sociodemographic changes, older adults at times are forced to shift from their own place to some institutions/old age homes.[1]

The disintegration of joint family structures into nuclear ones and the changing role of women. Thus, older people have become more vulnerable. Their vulnerability lies mainly in lack of employment, financial insecurity, ill health, and neglect by society.[2]

Different people face aging in different ways; some try to extend the appearance of middle age, some refuse to recognize facts, while others bring in premature aging by developing anxiety.[3]

Cognitive impairment is an important aspect in today’s growing population. There is sufficient data on incidents of cognitive impairment among old people at the age of 60 years & above.[3]

Another problem observed in elderly people affecting their quality of life (QoL), is the age-related influence in the neural system and reduced balance related to chronic disabilities. As this may be the cause of falls, it may result in functional dependence and activity limitations among elderly people.[5]

MATERIALS AND METHODS

- **Study Design:** Cross-sectional study.
- **Participants:** 66 elderly individuals (33 community-dwelling, 33 institutionalized) aged 65 years and above residing in Thane.
- **Inclusion Criteria:** Residents of Thane for over a year, willing to participate, and aged 65+.
- **Exclusion Criteria:** History of psychiatric disorders or inability to follow instructions.
- **Procedure:** After ethical clearance and informed consent, participants were screened and assessed using the Elderly Mobility Scale (EMS), Mini-Mental State Examination (MMSE), and SF-12 quality of life form.

RESULTS

Statistical analysis was performed using the Statistical Package for the Social Sciences (SPSS) software, version 26.0 (IBM Corp., Armonk, NY, USA). Continuous variables were assessed for normality and are presented as mean ± standard deviation. Comparison of mean age between elderly individuals residing with family and those residing in old-age homes was carried out using the independent t-test. Categorical variables, including gender distribution, Elderly Mobility Scale categories, Mini-Cog cognitive status categories, and SF-12 quality of life categories, are expressed as frequencies and percentages. Group-wise comparisons for categorical variables were performed using the Chi-square test. A p-value of ≤0.05 was considered statistically significant for allanalyses.

Demoghraphic data

variable residing with family residing in old age homes p-value

age- 72.91 ± 4.93

73.49 ± 7.33

0.709

Gender female 18(54.5%) female18(54.5%)

male 15(45.5%) male 15(45.5%)

independant t test; chi -square test

The mean age of elderly participants residing with family (72.91 ± 4.93 years) and those residing in old-age homes (73.49 ± 7.33 years) was comparable, with no statistically significant difference between the groups (p = 0.709; independent t-test). Gender distribution was identical in both groups, with females constituting 54.5% and males 45.5%, and no

significant association between place of residence and gender was observed (p = 1.000; Chi-square test). These findings indicate that the two groups were demographically comparable with respect to age and gender.

Comparison of Elderly Mobility Scale

Group	Dependent	Borderline independent	Independent	χ^2 value	p-value
Residing with family	12 (36.4%)	11 (33.3%)	10 (30.3%)	8.821	0.012*
Residing in old-age homes	24 (72.7%)	5 (15.2%)	4 (12.1%)		

Chi-square test; * indicates a significant difference at p≤0.05

A statistically significant difference in mobility status was observed between the two groups (χ^2 = 8.821, p = 0.012). Among elderly individuals residing with family, 36.4% were dependent, 33.3% were borderline independent, and 30.3% were independent. In contrast, a substantially higher proportion of those residing in old-age homes were classified as dependent (72.7%), with fewer participants being borderline independent (15.2%) or independent (12.1%). This suggests poorer mobility status among elderly residents of old-age homes compared to those living with family

Comparison of Mini Cog scale

Group	No cognitive impairment	Mild cognitive impairment	Severe cognitive impairment	χ^2 value	p-value
Residing with family	9 (27.3%)	10 (30.3%)	14 (42.4%)	6.285	0.043*
Residing in old-age homes	2 (6.1%)	9 (27.3%)	22 (66.7%)		

Chi-square test; * indicates a significant difference at p≤0.05

Cognitive status differed significantly between the two residential settings (χ^2 = 6.285, p = 0.043). Elderly individuals residing with family showed lower proportions of severe cognitive impairment (42.4%) compared to those in old-age homes (66.7%). Conversely, a higher proportion of participants with no cognitive impairment was observed among those living with family (27.3%) than among residents of old-age homes (6.1%). These findings indicate a greater burden of cognitive impairment among elderly individuals residing in old-age homes.

Comparison of SF-12 scale

Group	Below average	Around average	Above average	χ^2 value	p-value
Residing with family	16 (48.5%)	15 (45.5$)	2 (6.1%)	8.671	0.013*
Residing in old-age homes	27 (81.8%)	6 (18.2%)	0 (0%)		

Chi-square test; * indicates a significant difference at $p \leq 0.05$

A significant difference in health-related quality of life was evident between the two groups ($\chi^2 = 8.671$, $p = 0.013$). Nearly half of the elderly residing with family reported quality of life scores around average (45.5%), and a small proportion (6.1%) reported above-average scores. In contrast, the majority of elderly individuals in old-age homes reported below-average quality of life (81.8%), with none reporting above-average scores. This suggests that elderly individuals residing with family generally experience better perceived quality of life than those residing in old-age homes.

DISCUSSION

The study highlights a significant disparity in health outcomes based on living environment. The dependency in mobility (72.7%) among institutionalised elderly suggests a lack of physical activity or social encouragement found in family settings. Better cognitive performance in community settings may be due to frequent social engagement and daily mental stimulation. These results align with previous studies in Raigad and Pune indicating that family setups offer superior emotional and health-related support.

CONCLUSION

Elderly individuals residing with family in suburban areas possess significantly better functional mobility, cognitive function, and quality of life. There is an urgent need for targeted physiotherapy and cognitive stimulation programs within institutional care settings.

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