

Original Research Article

Quality of life of institutionalized elderly in an urban area of North Kerala, India

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ABSTRACT

Background: Being transferred from home to nursing care facility is great challenge for elderly as they have to face a radical change in their lifestyle. However, not much is known about the response of its residents to institutionalization and its impact on their physical and mental health. Objective is to assess quality of life (QOL) of institutionalized elderly in an urban area of North Kerala and its association with sociodemographic factors.

Methods: A cross-sectional study was conducted among 202 elderly residing in old age homes (OAH). Data was collected using WHO QOL BREF. Data analysed using SPSS version 16.0. Results expressed terms of mean, SD, frequencies, percentages. Kruskal Wallis and Mann Whitney U test used to find association between domain-wise (physical, psychological, social relationships, environmental) QOL and sociodemographic factors.

Results: Out of 202 elderly residing in OAH, majority were females (60.4%), belonged to 60-69 years age-group (39.6%), Hindus (59.9%) and widowed (49.5%). Majority had 'moderately poor QOL in all domains, except environmental domain where majority had 'moderately good' QOL. Highest mean scores were found in environmental domain. Statistically significant association was found between physical domain and age-groups, gender, marital and educational status; and between psychological domain and gender, current occupational status. Environmental domain was associated with age-groups, religion, financial dependency, current occupational status.

Conclusions: Elderly belonging to younger age-group (60-69 years), male gender, educated, retired group and those without morbidity had better QOL.

Keywords: Institutionalized, Elderly, QOL, Sociodemographic

INTRODUCTION

Ageing is an inevitable developmental phenomenon which is accompanied by a number of changes in physical, psychological, hormonal and social conditions of an individual.¹ The United Nations agreed cut off for age of elderly persons is 60 years and above.² The declining trend in both fertility and mortality, along with increasing life expectancy has gradually shifted the global demographic structure to increasing population of elderly.

According to reports, the southern part of India account for 52% of all OAHs.³ India's OAHs are best examples

for institutions which are trying to uphold the needs, desires and values of the elderly.⁴ The concept of OAH dates back to more than 15 years in Kerala.⁵ Social organizations and private people also have made considerable contribution in setting up OAH in addition to Government. These homes also create a family like atmosphere among their inmates.

As a result of urbanization and modernization, there was a cultural shift from inter-dependence to independence, splitting up of joint families and changing roles of women. More recently, individuals are adopting more of a performance-oriented approach than a family-oriented one. Adding to this misery, 45% of aged Indians suffer

from chronic diseases and disabilities.⁶ Migration of children in search of employment opportunities, their maladjustment in family, poverty and lack of social care and security are considered as the major reasons for the Indian elderly to shift to OAH or day care centres.⁷ Being transferred from home to a nursing care facility is a great challenge for elderly individuals because they have to face a radical change in their lifestyle. In this scenario, the concept of OAHs is gaining importance and the number seeking institutionalization is rapidly increasing.⁶ Considering this, conducting a study on the elderly individuals at homes, which no longer represents the actual elderly population, makes it necessary to extend the study to the resident in-mates of OAHs.

The elderly individuals face numerous ailments in the form of chronic illnesses such as hypertension, diabetes mellitus, respiratory diseases, cardiac problems, osteoarthritis which may or may not lead to functional dependence. Depression and cognitive impairment dominate the psychological domain of elderly. So, measures of disease alone are insufficient to assess health status and this point to the importance of 'subjective' measures of health and well-being.

A number of factors can affect the QOL of elderly individuals. But assessing the sociodemographic factors and morbidity patterns which are most close to each individual and their relationship with QOL is a necessity, as improvement in QOL can be easily brought about by considering these factors.

Objectives of the study were to assess the QOL and to study the association between socio-demographic factors and various domains of QOL of Institutionalized elderly in an urban area of North Kerala.

METHODS

This study is a part of the cross-sectional study conducted among elderly individuals (age 60 years and above) residing in OAHs and in community in the Kannur corporation area of North Kerala, India; from June 2018 to December 2019. In the current study, the elderly staying in OAHs were considered.

The sample size for the main study was calculated by considering the mean score and standard deviation in each of the four domains of QOL- physical, psychological, social relationship and environmental in both OAHs and community, using the formula,

$$n = Z^2 \sigma^2 / \epsilon^2 \mu^2$$

'n' is required sample size, 'σ' is standard deviation, 'ε' is relative precision (taken as 5%) and 'μ' is the mean. The level of confidence was taken as 95% and 'Z' value corresponding to 95% confidence interval is 1.96. Substituting the values of mean as 47.04 and standard deviation as 15.16 (environmental domain) from the

study by Kumar et al, sample size was calculated to be 160 in each group.¹¹ Adding 20% non-response, this becomes 192. This was rounded off to 200 in each group to get the sample size for the main study.

There were 7 OAHs located within the Kannur corporation area, which had a total of 218 elderly inmates. Since the sample size calculated was 200, all the elderly OAH inmates were considered for the study. Visit to OAHs was done by the researcher herself and data was collected after written informed consent was obtained from those who were willing to participate, in the form of signature or thumb impression (for those who could not sign). Individuals were then directly interviewed with the help of the questionnaire.

Five elderly individuals were excluded as they were undergoing psychiatric treatment, 3 were excluded as they were totally bed-ridden, 3 were excluded as they were deaf and dumb, 1 could not understand the local language used and 4 did not give consent for the study. So, data was collected from a total of 202 elderly OAH inmates.

Exclusion criteria excluded individuals with cognitive impairment, severely ill, bedridden, audio visually handicapped and unable to answer the study tools used.

Data was collected by direct interview using

Part 1: Pre-tested semi-structured questionnaire which includes questions on socio-demographic variables such as age, sex, religion, marital status, educational status, current occupational status, financial dependency; availing of old age pension schemes; morbidities and duration; duration of stay at OAH, visitors at OAH.

Part 2: WHOQOL- BREF scale to assess the QOL. There are two items that are examined separately: question 1 asks about an individual's overall perception of quality of life and question 2 asks about an individual's overall satisfaction of their health. WHOQOL-BREF is scored in four domains with a total of 26 questions. The four domain scores denote an individual's perception of quality of life in each particular domain.⁸ The four domains of QOL are as follows:

Domain 1: Physical health- deals with 7 questions which are regarding pain, need for medical treatment, energy for daily life, able to get around, satisfaction with sleep, ability to perform daily living activities, capacity to work.

Domain 2: Psychological- includes 6 questions on enjoying life, life meaningful, ability to concentrate, accepting bodily appearance, self-satisfaction, negative feelings.

Domain 3: Social relationships- 3 questions which deals with satisfaction with personal relationships, satisfaction with sex life and satisfaction with support from friends.

The question on 'satisfaction with sex life' was omitted in our study considering its non-applicability among OAH inmates.

Domain 4: Environmental- deals with 8 questions on feeling safe, physical environment, satisfaction with finance, availability of information, opportunity for leisure, satisfaction with living conditions, satisfaction with access to health and satisfaction with transport.

Each of the 4 domains of quality of life is rated on a 5-point Likert scale. Domain scores are scaled in a positive direction (i.e. higher scores denote higher QOL).

Permission for using the Malayalam version of WHOQOL-BREF was obtained from the WHOQOL information, evidence and research (IER) department.

The data was coded, entered in Microsoft excel 2007 spread sheet and analysed using SPSS version 16.0. The descriptive statistical methods like mean, standard deviation, median, interquartile range, frequencies, percentage were used. Inferential statistics like Kruskal Wallis test and Mann Whitney U test were used to test the significance between various factors and quality of life scores. A p value of less than 0.05 was taken as significant.

The domain scores obtained in this study were divided into 4 quartiles (derived within the range of 0-100). The quality of life domains was categorized into 4 groups namely; "very good" (scoring above 75th percentile), "moderately good" (scoring between 75th and 50th percentile), "moderately poor" (scoring between 50th and 25th percentile), and "very poor (scoring <25th percentile) QOL.

RESULTS

Total of 202 elderly staying in OAH were studied. Majority were females (60.4%). Majority (39.6%) of the elderly in OAH belong to 60-69 years category. Mean age \pm SD of the study population was 72.78 \pm 8.87 years. Table 1 shows the sociodemographic details of the study population.

While 30% (61) of the elderly had taken decision regarding institutionalisation on their own, for the majority (70%) it was decided by others. Table 2 shows frequency of decision makers of institutionalization of the elderly. Majority of them were brought by volunteers/local leaders/ well-wishers.

Considering being visited or not visited at OAHs, majority (53%, 107) of the elderly were being visited by their relatives/friends. Table 3 shows the frequency wise distribution of visitors.

Table 1: Sociodemographic details of study population (n=202).

Sociodemographic factors	Frequency (%)
Age groups (Year)	
60-69	80 (39.6)
70-79	61 (30.2)
\geq 80s	61 (30.2)
Gender	
Male	80 (39.6)
Female	122 (60.4)
Religion	
Hindu	121 (59.9)
Muslim	41 (20.3)
Christian	40 (19.8)
Marital status	
Married	2 (1.0)
Unmarried	63 (31.2)
Widow/Widower	100 (49.5)
Separated	37 (18.3)
Financial dependency	
Dependent	140 (69.3)
Partially dependent	62 (30.7)
Educational status	
Illiterate	50 (24.8)
Above high school level	8 (4)
Below/equal to high school level	144 (71.3)
Current occupational status	
Unemployed	180 (89.1)
Retired	22 (10.9)

Table 2: Distribution of institutionalized elderly according to the persons who decided or brought them to OAH (n=141).

Persons who brought/decision taken by	Frequency (%)
Volunteers/local leaders/well wishers	61 (43.26)
Children	40 (28.37)
Siblings	29 (20.57)
Other relatives (nephew/grandchildren/uncle/aunt)	11 (7.8)
Total	141

Majority had one or more type of morbidities (151, 74.7%). Around 76.8% (116) of those with morbidity had non-communicable diseases (NCDs), out of which 31% (36) had combination of NCD with other diseases such as musculoskeletal, gynecological, surgical, dermatological diseases, vision/ hearing problems and acute infections. In our study; 53.7% were hypertensive, 22.4% were diabetic, 14.9% had musculoskeletal problems and 9% had coronary artery disease.

Only 31.2% (63) of them were availing old age pension schemes, the distribution of which is depicted (Table 4).

Majority (54.5%, 110) rated their QOL as ‘neither good nor poor’, while 36.6% (74) of the elderly were found to have their satisfaction regarding overall health as ‘neither satisfactory nor unsatisfactory’. Table 5 shows distribution of elderly according to their rating of overall health and satisfaction regarding overall health.

Table 6 shows the mean±SD, median±IQR scores of the 4 domains of QOL of elderly persons staying at OAH.

Table 7 shows that majority of the elderly in our study belonged to ‘moderately poor’ category in the QOL domains-physical (45%), social relationship (66.8%) and psychological (53%). But in the environmental domain QOL, majority (70.4%) belonged to ‘moderately good’ category.

Table 8 depicts association of QOL domains with sociodemographic factors of institutionalized elderly. Age-groups was significantly associated with physical, environmental domains; gender with physical and psychological domains and religion with environmental domain. Educational and marital status with physical; current occupational status with psychological and environmental; financial dependency with environmental domain were found to be significantly associated.

Elderly belonging to 60-69 years age-group had better physical domain QOL, while those ≥80 years had better environmental domain QOL. Males were found to have better physical and psychological domain QOL than females. Statistically significant difference was found to exist between marital status groups unmarried-widowed (p<0.001) and widowed-separated (p<0.001). Widowed elderly was found to have poorest physical domain QOL.

Statistically significant difference (p<0.0167) was found to exist between physical domain scores of educational status groups illiterate-above high school level (p=0.001) and above high school level-below/equal to high school level (p=0.014). Highest mean scores belonged to more educated elderly i.e., those with educational status above High school level and least scores were for the illiterate elderly. So, the institutionalised elderly with educational status above high school level were found to have better physical domain QOL than other two groups. No significant difference was found between domain scores of elderlies with education level below/equal to high school level and those who were illiterates (p=0.021).

Partially dependent elderly had better environmental domain scores. Retired elderly had better psychological and environmental QOL than unemployed elderly.

Table 9 shows that statistically significant association exist between physical domain QOL and

presence/absence of morbidity. Elderly without any morbidity had a better physical domain QOL.

Table 3: Distribution of elderly according to visitors.

Visitors (n=107)	Frequency (%)
Children	34 (31.78)
Relatives	34 (31.78)
Siblings	27 (25.23)
Friends	8 (7.48)
Siblings and children	3 (2.8)
Parent	1 (0.93)
Total	107

Table 4: Distribution of elderly according to availing of various pension schemes (n=63).

Pension schemes	OAH Frequency (%)
National old age pension scheme (NOAPS)	29 (46)
National widow pension scheme (NWPS)	9 (14.3)
National disability pension scheme (NDPS)	3 (4.8)
Others*	22 (34.9)
Total	63

*Kshemanidhi pension, service pension, agricultural labour pension, unmarried pension, cancer pension, sports pension and Fisherman’s pension.

Table 5: Rating of overall health and satisfaction regarding overall health of elderly (n=202).

Rating of overall QOL	Frequency (%)
Very good	3 (1.5)
Good	33 (16.3)
Neither poor nor good	110 (54.5)
Poor	52 (25.7)
Very poor	4 (2)
Satisfaction of overall health	
Highly satisfactory	4 (2)
Satisfactory	48 (23.8)
Neither satisfactory nor unsatisfactory	74 (36.6)
Unsatisfactory	61 (30.2)
Highly unsatisfactory	15 (7.4)

Table 6: Mean and median scores of the QOL domains of elderly.

QOL Domains	Mean±SD	Median±IQR
Physical	50.95±1.9	50.00±28.57
Social relationship	35.27±1.1	41.67±16.67
Psychological	46.86±1.5	45.83±20.83
Environmental	63.88±1.2	62.50±15.62

Table 7: Distribution of elderly according to categories of QOL domains (n=202).

QOL domains	Categories			
	Very good frequency (%)	Moderately good frequency (%)	Moderately poor frequency (%)	Very poor frequency (%)
Physical	27 (13.4)	65 (32.2)	91 (45)	19 (9.4)
Social relationships	0 (0)	9 (4.5)	135 (66.8)	58 (28.7)
Psychological	5 (2.5)	69 (34.1)	107 (53)	21 (10.4)
Environmental	30 (14.8)	142 (70.4)	30 (14.8)	0 (0)

Table 8: Association between sociodemographic factors and QOL domains of elderly (n=202).

Sociodemographic factors	QOL domains			
	Physical Mean±SD	Psychological Mean±SD	Social relationship Mean±SD	Environmental Mean±SD
Age groups (year)				
60-69	56.61±1.8	47.18±1.4	36.46±1.1	62.26±1.0
70-79	50.06±1.9	47.40±1.6	31.97±1.3	61.47±1.2
≥80	44.44±1.7	45.90±1.6	37.02±1.0	68.39±1.2
P value*	0.001 [#]	0.820	0.063	0.005 [#]
Gender				
Male	56.34±1.8	52.44±1.6	35.31±1.2	65.62±1.3
Female	47.42±1.8	43.20±1.4	35.24±1.1	62.73±1.0
P value**	0.001 [#]	<0.001 [#]	0.726	0.088
Religion				
Hindu	48.87±1.8	47.28±1.5	35.40±1.2	66.47±1.2
Muslim	54.09±1.9	47.76±1.7	34.14±1.0	62.27±6.6
Christian	54.01±1.7	44.68±1.4	36.04±1.10	57.65±1.3
P value*	0.147	0.505	0.748	<0.001 [#]
Marital status				
Married	60.71±4.5	37.50±5.9	Constant	Constant
Unmarried	58.05±1.8	47.55±1.7	37.17±1.0	62.79±1.3
Widow/Widower	43.50±1.5	45.83±1.5	34.75±1.2	65.12±1.1
Separated	58.49±1.8	48.98±1.5	33.56±1.2	62.75±1.2
P value*	<0.001 [#]	0.623	0.493	0.259
Financial dependency				
Dependent	51.17±1.8	45.65±1.5	34.82±1.1	61.43±1.0
Partially dependent	50.46±1.8	49.60±1.6	36.29±1.2	69.40±1.3
P value**	0.778	0.156	0.200	<0.001 [#]
Educational status				
Illiterate	45.00±1.7	40.67±1.3	34.33±1.0	61.31±1.2
Above high school level	69.30±1.4	54.68±2.4	32.29±1.1	67.18±1.6
Below/equal to high school level	52.06±1.8	48.58±1.5	35.76±1.2	64.58±1.2
P value*	<0.002 [#]	0.160	0.405	0.160
Current occupational status				
Unemployed	50.11±1.8	45.56±1.5	35.18±1.1	62.57±1.1
Retired	57.79±1.9	57.57±1.8	35.98±1.2	74.57±1.2
P value**	0.06	0.001 [#]	0.921	<0.001 [#]

*Kruskal Wallis test, **Mann Whitney U test, #Statistically significant

Table 9: Association between QOL domains and morbidity of elderly (n=202).

Morbidity	QOL domains			
	Physical Mean±SD	Psychological Mean±SD	Social relationship Mean±SD	Environmental Mean±SD
Present	46.3±1.6	45.8±1.4	35.5±1.2	63.8±1.2
Absent	64.7±1.8	50.0±1.7	34.6±1.1	63.9±1.3
P value*	<0.001#	0.059	0.713	0.565

*Mann Whitney U Test, #Statistically significant.

Duration of stay at OAH was significantly associated with social and environmental QOL ($p < 0.05$), with those whose duration of stay < 1 year had better environmental and those with duration > 10 years had better social domain QOL. Physical and psychological domain QOL was associated with frequency of visits by their loved ones, those who were more frequently (once in 6 months) visited had better QOL in these 2 domains compared to those visited less frequently (once in > 1 year).

DISCUSSION

The mean age \pm SD of study population was 72.78 ± 8.87 years while Mudey et al reported as 68.84 ± 7.06 years.⁹ This might be due to increased life expectancy in Kerala compared to other states.¹⁰ Similar to studies by Chandrika et al and Praveen et al, female preponderance was found in our study also.^{11,11} Sample registration system (SRS) data suggests that of Kerala, the life expectancy at birth is more for females (77.8 years), compared to males (72 years).¹⁰ According to Rao et al most common morbidity was hypertension (54%), followed by diabetes (42%) and musculoskeletal disorders (28%) in OAH, similar to findings of our study.¹²

In this study, highest mean scores were found in environmental and least in social relationship domain. In the Kuppam study, physical domain had highest and social domain had least scores.¹¹ Poorer physical domain QOL with advancing age was found in this study, which was also found in studies by Mudey and Lokare et al.^{9,13}

Males had better physical and psychological domain QOL than females, similar to the findings of study conducted in Iran and Andhra Pradesh.^{11,14} Females suffer more frequently than men from chronic diseases; mostly due to the post-menopausal problems such as osteoporosis and high blood pressure.¹⁵ The female behaviour of giving least priority to her own health may also be a contributing factor to poorer quality of life. Statistically significant difference was found to exist only between the physical domain score of QOL and marital status groups. The widowed elderly had the least scores, probably because of they had lost their loved ones and had to resort to OAHs as they had no one to take care of.

Educational status of the study population was significantly associated with physical domain scores.

Similar findings were found in a study conducted in Visakhapatnam.¹⁶ Better physical QOL of literate elderly can be attributed to their better understanding of health problems. The better environmental quality of life of retired elderly may be because of their self-satisfaction about physical environment and self-sufficiency in finance.

Statistically significant difference was found between physical domain scores and presence/absence of morbidities among the elderly; whereas no such relationship was found with other domains. The elderly without any morbidity would be able to do their personal activities and get around without any help and does not require any kind of medical assistance. In a study conducted in Amaravati among institutionalized elderly, elderly without any type of morbidity had better mean scores in physical and social relationship domains.¹³

Limitations

The sample size of this study comprised of elderly inmates of OAHs, within a corporation area of a district in an Indian state. This is not representative of the actual proportion of institutionalized elderly and hence results cannot be generalized.

CONCLUSION

Total of 202 elderly staying in OAHs were studied. Mean age was 72.78 (8.87) years. The domain-wise QOL was found to be better for younger age group of elderly, i.e. 60-69 years, males, financially independent and educated, as well as those who were not having any type of morbidity.

Recommendations

Special programmes are to be initiated for the female elderly, addressing to their physical, psychological, financial and social issues. Increasing awareness regarding the various old age benefit schemes implemented by the central and state governments and provision for availing of old age pension schemes by all the elderly. Strengthening awareness of the general public and authorities is required regarding various programmes existing for senior citizens by the social justice department, elder's self-help groups (ESHG) etc and they should also be supported to make the best use of such programmes. More studies on QOL and associated factors

of elderly need to be done for more understanding and proper intervening of the factors which influence their QOL.

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