

An epidemiological study on quality of life among elderly in an urban area of Thirumazhisai, Tamilnadu

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ABSTRACT

Introduction: One of the most important indicators of health and well being of the elderly is the quality of life they live in. Owing to the rise in elderly population due to the demographic transition, there is growing need to address the health concerns of this population. **Aims:** The study was undertaken to find out the Quality of Life among the elderly and the associated factors. **Methodology:** This is a descriptive cross sectional study done in urban area of Thiruvallur district Tamil Nadu. To arrive at the required sample of 199, elderly people above 60 years were selected by probability proportionate to size sampling. Semi-structured pre-tested questionnaire was used for data collection regarding sociodemographic details and related factors. Katz scale was used to assess activities of daily living and Quality of life (QOL) was assessed using WHO quality of life BREF (WHOQOL BREF) questionnaire. **Results:** Moderate score in QOL was obtained in all the 4 domains with highest in Psychological and environmental domains. Nearly 99% of had full activity in Katz scale. All the three QOL domains were found to have statistical significant association with age and education. Gender and marital status were found to be associated with psychological domain, and employment/pensioner status with physical domain. **Conclusion:** Measures like Health education have to be targeted for the elderly in ways to improve their physical and psychological wellbeing which can improve the quality of life they live in. Primary care and family physicians have to be made aware and empowered to identify the various domains of QOL in elderly and to identify in which domain the person needs to take care the most.

Keywords: Geriatric population, Katz Scale, mental health, QOL

Introduction

According to United Nations elderly or older persons are the people aged 60+ years. They are further classified as oldest old (80+ years), centenarian (100+) and super-centenarian (110+). The population of elderly is expected to reach 1.2 billion by 2025 globally.^[1] By the year 2020, the total number of elderly will

nearly be more than the children under 5 years of age. All of the countries face a major challenge in facing this demographic shift.

Around 8% of the total population of India belong to elderly age group. This is expected to increase to 12.4% of the total population by 2026. About 65% of the elderly people in India have the need to be dependant on others for their daily needs.^[2] A decrease in the fertility rates and increased survival rates has led to dramatic increase in the elderly population. This shift is posing major challenges among various interconnected fields of health mainly the massive challenge of growth of the burden

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and impact of non-communicable diseases (NCDs) among the elderly population.^[3]

WHO defines quality of life as “An individual’s perception of life in the context of culture and value system in which he or she lives and in relation to his or her goals, expectations, standards and concerns”.^[4] Thus, it covers the individual’s mental health, physical health, degree of independence, attachment to surroundings, individual beliefs and their connection with the environment.^[5] To complement the growing burden of NCDs, the four major risk factors of chronic disease namely, obesity, tobacco, physical inactivity and alcohol consumption are particularly of concern in older Indian adults especially among those who live a lower quality of life. Another growing challenge which determines the quality of life among elderly is housing security and income of older adults. India is country where elders are not only economically dependant on the children but also have psychological dependence on them. But due to rapid modernization and urbanization, there is growing transition from joint/three generation to nuclear families, the elders are becoming deprived of the care and affection they receive from their kids and grandkids. They tend to feel isolated, stressed and depressed which could reduce their quality of life putting them at risk of developing various risk factors of NCDs which can significantly affect their mortality and morbidity.^[3]

There is paucity of data on community based research done to assess the quality of life of elderly in Tamilnadu. Therefore, this study is aimed to find out the quality of life of elderly individuals in selected urban field practice area of a private medical college in Tamilnadu and to find out various factors associated with quality of life among them.

Methodology

Study design

This is a cross sectional descriptive study done in the community.

Study area and population

Thirumazhisai is located in the thiruvallur district of Tamil Nadu. According to 2011 census, it has a population of 19,733 comprising of 9884 males and 9849 females. The study was done among elderly population above 60 years of age residing Thirumazhisai for a minimum period of 6 months.

Sample size

A study done by Ganesh SG *et al.* among urban elderly found the overall QOL score among the elderly to be 49.74 with Standard Deviation (SD) = 10.21. Applying this is the formula $n = 4(SD)^2/d^2$ with precision (d) as 1.5, 90% power and 95% confidence interval, the required sample size is calculated to be 200.

Sampling method

As per Census 2011, Thirumazhisai area had a total population of 19,733. Applying the national proportion of elderly (8%), the population of elderly in Thirumazhisai was calculated as 1578.

Thirumazhisai has 15 wards, these wards were considered as sampling unit. Probability proportional to size sampling technique was applied and sample from each ward was collected by simple random technique until desired sample size was obtained.

Inclusion criteria:

- Both sexes were included in the study.
- Population aged 60 years and above.
- Those who give informed consent.

Exclusion criteria:

- Elderly who could not respond to the questionnaire due to their illness.
- Those with cognitive impairment and those who couldn’t communicate.
- Elderly who are not willing to participate.

Study tool

A semi-structures pre tested questionnaire was used for data collection. It consists of 3 parts. **Part 1 contained details regarding to** social and demographic details of the study population such as age group, gender, marital status and education, living arrangements, economic dependency, monthly income of the family and also the personal income co morbid conditions, etc., **Part 2 contained a validated questionnaire - Katz scale -**Activities of Daily Living (ADL)^[6] which consisted of six questions regarding the many aspects of day to day activities the range of the score is from zero to six, where six is the highest score 0 is the lowest score indicating the two ends of spectrum of independence and dependance on ADL. **Part 3 was the WHO BREF questionnaire.** Quality of life was determined using WHO quality of life BREF (WHOQOL BREF) in questionnaire.^[4] It is an abbreviated short version of the original WHOQOL- 100. This questionnaire is one among the major quality of life instrument that has been developed and used among wide range of cultures namely 15 international field centres simultaneously including the Chennai, Tamilnadu, India. It consists of 26 questions out of which 24 were incorporated into the four domains: physical, psychological, social relationships and environmental and the remaining two questions enquired regarding the overall quality of life and health. It consists of 26 questions regarding physical, psychological, social, and environmental domains of QOL. Individuals were assessed on 5 point scale where one indicates very poor quality and five indicates very good quality of life. The mean score of each domain and the average score was calculated.

Data collection

A pilot study was conducted in the study area for a sample of 30 elderly people using the present questionnaire. Suitable modifications were made as required. After selecting the samples, the purpose of the study was explained to the individuals. After getting an informed consent, the questionnaire was given to the individuals. If the individual is not able to fill the questionnaire they were helped to fill it. Data collection was completed by

making 10 visits, each time questionnaire was administered to 20 individuals between the month June to August.

Study period

The study was done from May 2016 to August 2016.

Data analysis

Data was entered in microsoft excel and data analysis was done using SPSS. QOL was assessed and results was represented as mean scores and standard deviation. Association with various factors was analysed using T test.

Ethical approval and Informed Consent

Ethical clearance was obtained from Institutional ethical committee of the institution and informed consent was obtained from each and every participant after which they were included in the study.

Results

The study conducted in Thiruvallur district to find out the quality of life among 199 elderly individuals yielded interesting results which are given below in the form of tables and graphs.

Socio-demographic details of the study participants

In our study, we found that 75.3% (150) belonged to age group of 60–69 years followed by 19.1% (38) who belonged to age group of 70–79 years. Among the elderly, 31.2% (62) were males and 68.8% (137) were female. Around 66.8% (133) were married and living with spouse, 57.8% were illiterate, 33.3% were still employed and 85.4% were having their own house. Most of the study participants (67.3%) belonged to lower middle class [Table 1].

Self reported morbidity among the study participants:

Morbidity distribution as self-reported by the participants were enquired. It was found that, 46.7% told they did suffer from any morbidity, 8.5% suffered from hypertension, 19.6% were diabetic, 5.5% had bronchial asthma, 14.1% had defective vision and 5% had history of Tuberculosis (TB) [Figure 1].

Factors related to quality of life among study population

Regarding any kind of substance usage, 9% of the participants consume alcohol, 7% have the habit of smoking and 6% chew tobacco in some form. Around 29.1% were having reduced sleep, 12.6% were following a sedentary lifestyle and 44.2% were having a disturbed sleep pattern. When asked about the ideal leisure time activity spent by the study participants, 47.2% of them said that they watch TV, 27.1% spent time by talking with relatives and 11.5% read newspapers [Table 2].

Social factors related to the quality of life among the study participant

It was found that 5.5% (11) study population preferred nuclear family, 77.4% (154) preferred joint family, 17.1% (34) preferred to

Table 1: Socio-demographic characteristics of the study participants

Variable	Frequency (n) (n=200)	Percentage
Age group (Years)		
60-69	150	75.3
70-79	38	19.2
>80	11	5.5
Gender		
Male	62	31.2
Female	137	68.8
Marital status:		
Living with spouse	133	66.8
Living alone	66	33.2
Education		
Illiterate	115	57.8
Primary school	63	31.7
Secondary School	16	8
higher secondary school	4	2
Diploma/degree holder	1	0.5
Employment Status		
Employed/Pensioner	66	33.2
Unemployed	133	66.8
Socio-economic Status (BG Prasad Classification)		
Upper Class	3	1.5
Upper Middle Class	6	3
Middle Class	56	28.2
Lower Middle CLass	134	67.3
Ownership of the house		
Own house	170	85.4
Rented	29	14.6
Type of family		
Nuclear	14	7
Joint	138	69.4
Three generation	10	5
Separate	37	18.6

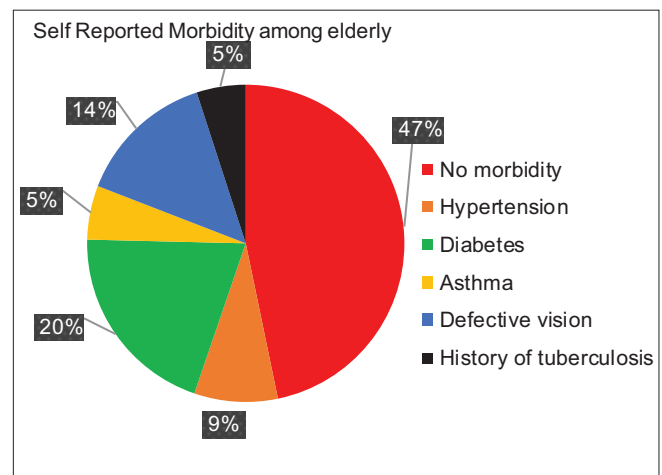


Figure 1: Self-reported morbidity of the study participants

stay alone. When the elderly were asked whether they still served any important role in their family, 89.4% responded that they have an important role in their family. Among the study participants,

60.8% took care of themselves and 26.1% were looked after by son/daughter. When the participants were enquired about their preference of stay, around 46.2% preferred to stay with son, 23.1% preferred to stay separate and 20.6% with daughter and only 10.1% with spouse [Table 3].

Quality of life (WHO BREF Questionnaire) among the study participants

Based on study it was found that the mean score of Physical domain was 55.615 + 14.67, Psychological domain was 60.08 ± 10.98, Social relationships domain was 59.16 ± 11.98 and Environment domain was 61.49 ± 11.787 [Table 4].

Association between quality of life domains and related variables

T test was applied to find association between various factors and QOL domains. P value < 0.05 is considered as standard significant value. In the study there was a statistical significance difference in Physical domain scores with respect to employment status (p = 0.001) and significance difference with respect to role in family (p = 0.024), age (p < 0.001) and education (p < 0.001). There was a statistical significance difference in psychological domain with respect to various factors like age (p = 0.001), education (p = 0.001), sex (p = 0.132), and marital status (p = 0.025). Statistical significance difference was found in social relationships domain with respect to role in family of (p = 0.048). There was statistical significance difference in environment with respect to various factors like age (p = 0.005) and education (p = 0.005) [Table 5].

Discussion

Quality of life is one of the major determinants of healthy living among the elderly. All of the major non-communicable diseases like diabetes, hypertension and even cancer has an important psychsocial component which is responsible for proper control and prognosis which depends on the quality of life they live. This study done in an urban population gave interesting results which are discussed below.

In this study, most of the participants were in the age category of 60-69 years, followed by 70-79 years and >80 years. Similar results were present in various studies like Raj D et al. in Varanasi, Elango S et al. in rural Tamil Nadu and Durgawale PM et al.^[7-9] Nearly 50% of the participants were belonging to joint family system in the present study. Similar results were found in study conducted by Lena et al. Karnataka^[10] and Durgawale et al. in Karad.^[9] These findings may be due to the high prevalence of joint family tradition in the country. Majority of them were economically dependent on their family (66%). Similar findings were observed in study done by Sowmiya KR et al.^[11]

Regarding self reported morbidity among the study participants, hypertension and diabetes mellitus was the common health conditions encountered in this study. Similar results were found in study done by Ganesh Kumar S et al. in Puducherry.^[12] where

Table 2: Variables related to quality of life among study population

Variables	Frequency (n)	Percentage
Any substance abuse		
Pan chewing	9	4.6
Smoking	14	7
Alcohol	18	9
Snuff	4	2
Tobacco chewing	12	6
Distribution of appetite		
Normal	136	68.4
Reduced	58	29.1
No appetite	5	2.5
Distribution of physical activity among study population		
Regular exercise	58	29.2
Usual routine	116	58.3
Sedentary	25	12.6
Distribution of sleep among study population		
Normal	100	50.3
Disturbed	88	44.2
Insomnia	11	5.5
Leisure time activity among the study participants		
Spent time with spouse	18	9
Spent time watching TV	94	47.2
Spent time with relatives	54	27.1
Spent time with friends	4	2
Spent time alone	5	2.5
Read Newspapers	23	11.5
Activity of Daily Life (Katz Scale)		
No activity	1	0.5
Full activity	198	99.5

Table 3: Social factors related to the quality of life among the study participants

Variables	Frequency (n)	Percentage
Type of family preferred		
Nuclear	11	5.5
Joint	154	77.4
Seperate	34	17.1
Do you feel you are important person in your family?		
Yes	178	89.4
No	21	10.5
Preference of stay		
Son	92	46.2
Daughter	41	20.6
Spouse	20	10.1
Seperate	46	23.1
Main caregiver		
Self	121	60.8
Wife	16	8
Son/daughter	52	26.2
Others	10	5
Activity of Daily Life (Katz Scale)		
No activity	1	0.5
Full activity	198	99.5

diabetes mellitus had higher prevalence when compared to other co-morbid conditions. These health problems can influence and affect their Quality of Life as these chronic diseases can affect the physical and psychological wellbeing of the individuals as evident from the study done by Joshi MR et al.^[13]

In our study the mean score of QOL in the physical domain was similar to study done by Ganesh Kumar S et al. in Puducherry^[12] but mean score of QOL in social relationship domain had significant difference in the values. The difference observed in different domains may be due to difference in pattern of associated factors which influence QOL in different study setting. Definition and instruments used to assess QOL may be the other factor responsible for this difference.

Psychological domain in our study is similar to study in Mudey A et al. Maharashtra.^[14] Mean score of social relationship in our

study is similar to study by Sowmiya KR et al.^[11] where mean was 63.69. This indicates that their social contacts and support they derive from their personal relations and peer groups has greater influence on them.

In our study marital status was significantly associated with psychological but study in Kuala Lumpur by Onunkwor OF et al.^[15] found no significance association to domain of QOL may be due to the reason that study was conducted in old age homes where they don't live with their spouse. As study in Mettupalayam by Sowmiya KR et al.^[11] showed no significant difference between psychological and marital status. The difference may be due to the reason that majority in our study were married and living with spouse and is a different study group when compared to other studies.

In our study level of education was significantly associated with psychological domain and was also significantly associated with environmental domain similar to study done in Kuala Lumpur by Onunkwor OF et al.^[15] This may be due to that level of education may be linked with psychological resilience, coping mechanism and social relationships.

In our study we found that socioeconomic status was not significantly associated with all the four domains of QOL. But study in Kuala Lumpur by Onunkwor OF et al.^[15] and Ghosh D

Table 4: Quality of life (WHO BREF Questionnaire) among the study participants

Domains	n	Minimum	Maximum	Mean	Standard deviation
Physical	199	12.50	96.25	55.615	14.67
Psychological	199	25	81	60.08	10.94
Social relationship	199	6	94	59.16	11.98
Environmental	199	25	81	61.49	11.78

Table 5: Association between Quality of life domain and related variables

Variable	Physical domain t (P)	Psychological domain t (P)	Environment domain t (P)
Age			
(60-69 years)	13.160	6.964	5.512
(70-79 years)	P=0.0001*	P=0.001*	P=0.005*
(>80 years)			
Education			
Illiterate Primary school	13.160	6.964	5.512
Secondary education Higher secondary Degree	P=0.0001*	P=0.001*	P=0.005*
Socioeconomic			
Class I	1.197	0.934	1.890
Class II	P=0.312	P=0.425	P=0.133
Class III			
Class IV			
Sex			
Male	0.685	2.287	0.931
Female	P=0.409	P=0.132*	P=0.336
Maritalstatus			
Married	1.340	5.073	0.102
Others	P=0.248	P=0.025*	P=0.75
Employment			
Employed	6.716	2.917	0.013
Unemployed	P=0.01*	P=0.089	P=0.909
Sleep			
Normal	1.913	2.401	0.4
Disturbed insomnia	P=0.168	P=0.123	P=0.51
Role in family			
Yes	5.175	2.392	1.271
No	P=0.024*	P=0.124	P=0.273

*P<0.05 - Statistically significant at 95% Confidence Interval

et al.^[6] socioeconomic status found significant with all domains of QOL. In a study done by Ghosh D *et al.*, This may be due to different classification (B.G. Prasad) was used in our study and other factors playing more important role than socioeconomic status.

Since the elderly frequently visit primary health centers and family physicians for their health needs, it is imperative that the treating primary physicians should be made aware of assessing the quality of life among elderly patients so that they can deliver holistic healthcare treatment to the person rather than treating the disease or illness alone. WHO Quality of Life questionnaire must be in used by all primary care physicians especially among those elderly who suffer from chronic diseases, so that the major domains which has an impact on their quality of life can be found out and counselling, Focus Group Discussions (FDG) and Health education activities can be carried out among them.

This study among elderly people in Thirumazhisai has found moderate QOL score all of the domains. Similar results were obtained in developed countries like Europe where the QOL scores were found to be acceptable (56.6%) as found in a study done by Grassi L *et al.*^[17] Among the domains, psychological and environmental domains had highest QOL scores. Age, sex, education, marital status, employment status and role in family are the factors which were found to have statistical significant association with quality of life among the elderly.

Conclusion

This study highlights the fact that, the elderly need the ardent support from the family and social circle which could help in improving the quality of life and help them to lead a physically, socially and economically productive life. Health education programmes can be implemented in the form of social support groups for the elderly with weekly Focus Group Discussions among them with a psychologist/counselor to find out the gaps in the QOL domains and measures could be taken to address them.

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Conflicts of interest

There are no conflicts of interest.

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