

## ORIGINAL ARTICLE

# Health Related Quality of Life (HRQoL) as Impinge of Functional Mobility Among Elderly Living in Rural and Urban Areas, Nellore, AP - Comparative Study

Viji Alex<sup>1</sup>, Indira Armugham<sup>1,2</sup>, Amiya Bhaumik<sup>1</sup>, V. Jayanthi<sup>1,2</sup>, Smitha Poovathinkal Madhavan<sup>1,2</sup>, Aruna Gundluru<sup>1</sup>, Sandeep Poddar<sup>1</sup>

<sup>1</sup> Lincoln University College, Wisma Lincoln, No. 12-18, Jalan SS 6/12, 47301, Petaling Jaya, Selangor Darul Ehsan, Malaysia

<sup>2</sup> Narayana College of Nursing, Chinthareddypalem, Nellore, Andhra Pradesh 524002, India

## ABSTRACT

**Introduction:** Physical restrictions, psychological problems, and socio-economic changes such as economic dependency, widowhood, and social marginalisation have all increased because of the large growth in ageing. Age related anatomical, physiological and psychological impairment have an impact on quality of life of elderly related to Health-Related Quality of Life (HRQoL). These factors have become an important part of public health surveillance and are viewed as valid indicators to measure the quality of life of humans. **Methods:** The study was conducted in urban and rural areas of Nellore district, Andhra Pradesh state, India. The 50 elderlies from rural areas of Kamakshinagar and 50 elderlies from urban area of Balaji Nagar were selected. Nellore district was chosen to obtain study participants by non-probability convenient sampling technique. Elderly between the age group of 60-75 years of age were included and those who were mentally and physically sick at the time of data collection were excluded. Health Related Quality of Life (HRQoL) four-point rating scale was used to obtain data to determine the quality of life among elderly. **Results:** In this study, the mean score of the urban elderly were higher than the rural participants with respect to physical, psychological, social, leisure time, coping, and spiritual elements. However, both rural and urban elderly had maximum mean score in physical status and lowest score in surviving style. **Conclusion:** The urban elderly has better, and good quality of life relate to functional ability, mobility, free of physiological discomforts, psychological wellbeing, decision power, family support, involving leisure and recreational activities, spirituality, coping with friends and family compared to elderly living in rural area.

**Keywords:** Quality of Life, Elderly, Impinge of functional mobility

## Corresponding Author:

Viji Alex, Master in Nursing  
Email: chennai\_viji@rediff.com  
Tel: +91 9444004793

## INTRODUCTION

Ageing is demographic transition process of adults to old age and associated with dynamic changes in physical, biological, physiological, ecological, psychological, behavioural, and social processes. The common age-related changes are greying of the hair, thin and wrinkle skin, age spots and skin tags. Other major changes lead to impaired sensory functions and restricted activities of daily living as well as increased susceptibility and frequency of illness, weakness, or disability. In fact, Elderly is a major risk factor for many lifestyle diseases in humans (1). The population of 60 years and above is projected to increase to 19% (2050) from 8% (2015). The increase in the population of the elderly (80 and above) is also high in India (2).

Physical restrictions, psychological problems, and socio-economic changes such as economic dependency, widowhood, and social marginalisation have all increased because of the large ageing population (3). Some old individuals in India are left alone in their families owing to a shortage of financial and social help. Increased physical limits, changes in family structure, and a shortage of financial stability have all been highlighted as contributing causes to aged insecurity and poor quality of life (2, 4).

Elderly with impaired physical performance and low functional status were linked to poor life satisfaction and poor quality of life, however the link was weak (5). Quality of life (QOL) is defined by the World Health Organization (WHO, 2012) as an individual's perception of their position in life in relation to their objectives, expectations, standards, and concerns in the context of the culture and value system in which they live (6). The level of happiness experienced by an individual or a group of individuals is described to as quality of life. As

this is an intangible object, it cannot be measured directly. The components are physical state, psychological status, social support, leisure time, spirituality, and coping style. Physical factors include health, food, pain and disease prevention. Stress, worry, pleasure, and other good or negative emotional states are among the psychological components (7). HRQOL is described by the CDC as “a person’s or a group’s perception of physical and mental health across time” (5).

Since the 1980s, the idea of health-related quality of life (HRQOL) and its elements have expanded to include all components of overall quality of life that have been proved to have an impact on health—physical or mental (8). At the individual level, HRQL includes perceptions of physical and mental health (e.g., energy levels, mood) as well as its correlates, such as health risks and conditions, functional status, social support, and socioeconomic status (8). HRQL refers to the resources, situations, rules, and behaviours that influence a population’s perception of health and functional status at the community level (8).

HRQL questions have become a standard component of public health surveillance, and they’re often considered as accurate indicators of unmet needs and intervention outcomes. Many objective health markers are less accurate predictors of death and morbidity than self-reported health status. HRQoL metrics can be used to demonstrate the influence of health on quality of life in a scientific way (8).

Due to the significant increase in ageing population in both developed and developing countries, quality of life is at danger for every individual. In the twenty-first century, the task is to delay the development of infirmities and provide an optimal quality of life for the elderly. The World Health Organization has issued a warning to member countries that the rising incidence of chronic diseases and fall in well-being, as people live longer around the world, this will pose a serious global public health concern (9). At the present era, QoL among elderly have become the main concern for well being of geriatrics in the aspects of nutritional status (10).

This article attempts to highlight some of the issues that an ageing population might bring. The elderly was given special attention, and issues that would impair their quality of life were highlighted. The study objectives are to evaluate health-related quality of life among the elderly in rural settings, compare health-related quality of life among the elderly in urban settings, and link health-related quality of life among the elderly in rural and urban settings to demographic factors.

## **MATERIALS AND METHODS**

### **Setting and sample**

A broad review and community-based comparative

study was performed involving HRQoL as aging causes the deprivation of systemic and functional mobility. The study was performed in rural and urban parts of Nellore district, Andhra Pradesh state, India. The rural section of the study was conducted in Kamakshinagar, a small village in Thotapalligudur Mandal in Nellore district, A.P. The total population is 1295 among them male 661 and females 634 living in 365 Houses. Total area of Kamakshi Nagar is 299 hectares. Balaji Nagar consisted of 22477 individuals in the Nellore district of Andhra Pradesh state. There are 11423 males and 11054 females in the population (11). The 50 elderlies from Kamakshinagar and 50 elderlies from Balaji Nagar Nellore district were selected as study participants by nonprobability convenient sampling technique; elderly between the age group of 60-75 years of age were included and those who were mentally and physically sick at the time of data collection were excluded.

### **Ethical clearance**

The study procedure was accepted by the Narayana College of Nursing’s Institutional Ethics Committee in Nellore, Andhra Pradesh, India (see memo no. 05/PhD(N)/LU/2019 dated as 06th June 2018).

### **Data collection**

Informed consent was obtained from elderly prior to data collection. Base line data such as Age, Religion, Occupation, Marital Status, Education, Gender, Income, Residential Status, Number of children and social support were collected. Health Related Quality of Life (HRQoL) four point Rating scale was used to collect data consisting of 6 component: Physical status, Psychological status, Social support, Leisure time, Spiritual and Coping style includes 25 positive and 25 negative statements, 14 statement covers the physiological functioning and physical mobility, 10 statements covers psychological wellbeing, worries and self esteem, 9 statements covers social support from family members, friends and social gathering, 7 statements covers leisure time activities and necessary economical support for the same, 5 statements covers faith in religion, habit of reading religious books, visiting temples and 5 statement covers coping style. The HRQoL instrument is 4 response categories: never, occasionally, frequently, and always. The score of positive statement ranged from 1-4 (never, occasionally, frequently, and always) and score of negative statement ranged from 4-1 (always, frequently, occasionally, never). The result of all 7 components were summed up again producing the HRQoL, which reflects the standard of quality of life in general. The total score ranges from 1 to 200, in this study HRQoL value below 50 was considered as “Very Poor quality of life”, 51 – 100 as “Poor quality of life”, 101- 150 as “Fair quality of life”, and 151- 200 as “Good quality of life”.

### **Data analysis**

SPSS v18 was used to analyse the data, which was entered

into an MS Excel sheet. Physical state, psychological status, social support, leisure time, spirituality, and coping style were all used to determine QOL. The average and standard deviation of the scores have been calculated (SD). The significance of the median score was tested using an independent t test. P value of P=0.001 has been considered for statistical significance. The mean and standard deviation scores in each domain were also calculated.

**RESULTS**

Considering demographic data of elderly, 23 (46%) elderly in urban area were in the age group of 64-69 years and in rural areas 21 (42%) and between age group of 64-69 years. 38(76%) of elderly in urban areas. They were getting support from family members, 44(88%) of elderly were getting support from their friends in rural areas.

Table I depicts the frequency and percentage distribution of health-related quality of life among elderly in rural region. Considering the physical status, 3 (6%) of elderly had poor and 28 (56%) of elderly had good health related quality of life. Views of the psychological status 4(8%) of elderly had poor and 11 (22%) of elderly had good health related quality of life. With respect of communal support, 12 (24%) of elderly had poor and 9 (18%) of elderly had good health related quality of life. Considering the leisure time, 5(10%) of elderly had poor and 9 (18%) of elderly had good health related quality of life. Considering the coping style, 7(14%) of elderly had poor and 5 (10%) of elderly had good health quality of life.

Table II depicts the frequency and percentage distribution of health-related quality of life among elderly in urban region. With respect to physical status, 5 (10%) of elderly had fair and 45(90%) of elderly had good health related quality of life. Regarding the psychological status 4(8%) of elderly had fair and 46 (92%) of elderly good health related quality of life. With respect of social support, 6 (12%) of elderly had poor and 4(8%) of elderly had good quality of life. With regards to leisure time 7 (14%) of elderly had poor and 18 (36%) of elderly had good health related quality of life. In view of the coping style

**Table I: Frequency and percentage distribution of health related quality of life among elderly in rural area (n=50)**

Quality of life	Very Poor		Poor		Fair		Good	
	n	%	n	%	n	%	n	%
Physical status	-	-	3	6.0%	19	38.0%	28	56.0%
Psychological status	-	-	4	8.0%	35	70.0%	11	22.0%
Social support	-	-	12	24.0%	29	58.0%	9	18.0%
Leisure time	-	-	5	10.0%	36	72.0%	9	18.0%
Spiritual	-	-	11	22.0%	27	54.0%	12	24.0%
Coping style	-	-	7	14.0%	38	76.0%	5	10.0%

**Table II: Frequency and percentage distribution of health related quality of life among elderly in urban area (n=50)**

Health Related Quality of Life	Very Poor		Poor		Fair		Good	
	No	%	n	%	n	%	n	%
Physical status	0	0%	0	0%	5	10.0%	45	90.0%
Psychological status	0	0%	0	0%	4	8.0%	46	92.0%
Social support	0	0%	6	12.0%	40	80.0%	4	8.0%
Leisure time	0	0%	7	14.0%	25	50.0%	18	36.0%
Spiritual	0	0%	1	2.0%	14	28.0%	35	70.0%
Coping style	0	0%	0	0%	11	22.0%	39	78.0%

7 (14%) of elderly had poor and 5 (10%) of elderly had good health related quality of life.

Table III depicts the difference of mean health related quality of life of elderly in rural and urban area. The study results discovered that the mean physical status of rural area was 41.64 with SD of 7.95 and an urban area mean score was 48.96 with SD of 3.89. However, the physical status of both rural area and urban area was discovered to be statistically important at P<0.001 level. Student Independent ‘t’ test projected that t value is 5.85 statistically significant.

**Table III: Comparison of mean health related quality of life of elderly in rural and urban area (N=50+50)**

Health related Quality of life	Group				Student Independent t-test
	Rural		Urban		
	Mean	SD	Mean	SD	
Physical status	41.64	7.95	48.96	3.89	t=5.85 P=0.001 S
Psychological status	27.48	5.21	35.06	1.98	t=9.61 P=0.001 S
Social support	21.72	5.17	23.06	3.35	t=1.53 NS
Leisure time activities	18.26	3.94	19.62	4.70	t=1.56 NS
Spiritual	13.10	3.29	16.78	2.79	t=6.03 P=0.001 S
Coping style	12.50	2.51	16.66	1.80	t=9.52 P=0.001 S
Overall Quality of life score	134.70	17.33	160.14	12.03	t=8.53 P=0.001 S

S= Significant : NS= Not significant

The mean psychological status of rural area was 27.48 with SD of 5.21 and in urban area mean score was 35.06 with SD of 1.98. However, the psychological status of both rural and urban area was discovered to be statistically significant at p<0.001. Student Independent ‘t’ test projected that t value is 9.61 statistically significant.

Family support in the rural area showed a score of 21.72 with SD of 5.17 and family settings mean score of 23.06

with SD of 3.35. However, the social support of both rural area and urban area was not statistically significant. Student Independent 't' test projected a value of 1.53 which was not statistically significant.

Considering the mean leisure time activities in the rural area were 18.26 with SD of 3.94 and in the urban area mean score was 19.62 with SD of 4.70. However, the leisure time activities of both rural area and urban area were found not to be statistically significant. Student Independent 't' test projected a value of 1.56 which was not statistically significant.

With respect to the mean spirituality of rural area the score was 13.10 with SD value of 3.29 and an urban area mean score of 16.78 with SD of 2.79. However, the spiritual status of both rural area and urban area was found to be statistically substantial at  $P < 0.001$ . Student Independent 't' test projected that t value is 6.03 statistically significant.

Coping strategies of rural area were 12.50 with SD of 2.51 and in the urban area mean score of 16.66 with SD of 1.80. However, the coping style of both rural area and urban area was found to be statistically significant at  $p < 0.001$ . Student Independent 't' test projected t 9.52 statistically significant.

The mean total score for quality of life of rural area was 134.70 with SD of 17.33 and an urban area mean score was 160.14 with SD of 12.03. However, both rural area and urban area was found to be statistically significant. Student Independent 't' test projected a value is 8.53 which is statistically significant.

Health Related Quality of Life is associated with functional mobility among elderly staying in rural area with statistical significant relationship with age and employment and was not associated with other demographic data such as gender, marital, education, religion, resident, number of children, social support, and income.

The statistical research found that educational status and income had a substantial relationship. Other demographic qualities such as age, marital status, gender, employment, religion, residence, and number of children, also social support, and income, were found to have no statistically significant relationship.

## DISCUSSION

In this study the mean scores were above average for the urban elderly in all physical, psychological, social, leisure time, coping and spiritual aspects than the rural elderly. However, both rural and urban elderly had maximum mean score in physical status and lowest score in coping style. Comparable conclusions were also found in the study conducted an urban and rural

region of Bangalore, South India (12).

The scoring of HRQoL data revealed that none of the elderly in the current study had very low HRQoL, whereas 40% of seniors in metropolitan areas have "Good HRQoL." Similar findings were found in a study carried out in an urban field practise region of a tertiary care institute in Ahmedabad, Gujarat (9).

Similar study was conducted as a participative teaching method based on health education on Healthy Diets and Regular Exercises in Achieving a Health-Related Quality of Life in Klang Valley, Malaysia (13). In this study educational status and family income were found to have a substantial relationship with HRQoL. This was supported another study on quality of life, self-rated health and social support among older adult in the Saudi Arabia community which showed similar results (14).

## CONCLUSION

The urban elderly has better living condition and good quality of life relate to functional ability, mobility, free of physiological discomforts, psychological wellbeing, decision power, family support, involving leisure and recreational activities, spirituality, coping with friends and family compared to elderly living in rural area. The rural elderly is in need of social support system and health care services at village level to enhance their quality of life.

## ACKNOWLEDGEMENTS

The authors would like to acknowledge the elderly participants in this research who came from both the rural and urban areas of Nellore.

## REFERENCES

1. Forrest LF, Adams J, Ben-Shlomo Y, Buckner S, Payne N, Rimmer M, Salway S, Sowden S, Walters K, White M. Age-related references in national public health, technology appraisal and clinical guidelines and guidance: documentary analysis. *Age and ageing*. 2017 May 1;46(3):500-8.
2. Chanda S, Mishra R. Impact of transition in work status and social participation on cognitive performance among elderly in India. *BMC geriatrics*. 2019 Dec;19(1):1-0.
3. Sarkisian CA, Prohaska TR, Wong MD, Hirsch S, Mangione CM. The relationship between expectations for aging and physical activity among older adults. *Journal of general internal medicine*. 2005 Oct 1;20(10):911-5.
4. Wang JJ, Lin JN, Lee FP. Psychologically abusive behavior by those caring for the elderly in a domestic context. *Geriatric nursing*. 2006 Sep 1;27(5):284-91.
5. Puvill T, Lindenberg J, De Craen AJ, Slaets JP,

- Westendorp RG. Impact of physical and mental health on life satisfaction in old age: a population based observational study. *BMC geriatrics*. 2016 Dec;16(1):1-9.
6. World Health Organization Quality of Life (WHOQOL), WHOQOL User Manual, Featured publication. 2012 Mar;1 :8.
  7. Viji A. Assess the level of family support and quality of life of women underwent hysterectomy. *International Journal of Applied Research* 2018; 4(6); 319-321.
  8. Michelson H, Bolund C, Nilsson B, Brandberg Y. Health-related quality of life measured by the EORTC QLQ-C30: reference values from a large sample of the Swedish population. *Acta oncologica*. 2000 Jan 1;39(4):477-84.
  9. Shah VR, Christian DS, Prajapati AC, Patel MM, Sonaliya KN. Quality of life among elderly population residing in urban field practice area of a tertiary care institute of Ahmedabad city, Gujarat. *Journal of family medicine and primary care*. 2017 Jan;6(1):101.
  10. Kurniawati D, Dewi A. Nutritional status and quality of life in elderly. *The Malaysian Journal of Nursing (MJN)*. 2018 Jan 3;9(3):11-5.
  11. GEOIQ. 2021. Retrieved from <https://geoiq.io/places/Balaji-Nagar/9sGAQ07YjT>
  12. Krishnappa L, Gadicherla S, Chidambaram P, Murthy NS. Quality of life (QOL) among older persons in an urban and rural area of Bangalore, South India. *Journal of Family Medicine and Primary Care*. 2021 Jan;10(1):272.
  13. Dioso RI, Poddar S, Abdullah BF, Hassan HC. Effectiveness of Online Health Education on Healthy Diets and Regular Exercises in Achieving a Health Related Quality of Life During This Pandemic Era. *Malaysian Journal of Medicine and Health Sciences*. 17(SUPP4): 67-72, June 2021
  14. Abou El-Soud FA, Alhoraim SA, Alammam BA, Alotaibi RS. Quality of Life, Self-Rated Health and Social Support Among Older Adult in the Saudi Community. *The Malaysian Journal of Nursing (MJN)*. 2020 Jan 2;11(3):13-25.