

## Dimensions and determinants of Quality of Life among elderly in a rural population of Barabanki District, Uttar Pradesh

Brajesh Anand PD<sup>1,\*</sup>, Mukesh Shukla<sup>2</sup>, Siraj Ahmad<sup>3</sup>, Sneha Soni<sup>4</sup>

<sup>1</sup>Junior Resident, <sup>2</sup>Professor & HOD, <sup>3</sup>Assistant Professor Dept. of Community Medicine, Hind Institute of Medical Sciences, Barabanki, Uttar Pradesh, <sup>4</sup>Assistant Professor, Dept. of Community Medicine, Hind Institute of Medical Sciences, Sitapur, Uttar Pradesh

**\*Corresponding Author:**

Email: dr.anandbrajesh@gmail.com

### Abstract

**Introduction:** Population ageing is being recognised worldwide as a reality but still the quality of life (QOL) among elderly seems to be a neglected issue in developing countries like India. Therefore the present study was conducted to measure health related QOL among elderly and to ascertain some of the determinant factors.

**Methods:** This was a community based cross-sectional survey, conducted among 782 elderly subject in rural population of Barabanki, Uttar Pradesh. WHO QOL-BREF was used to assess the data on QOL of elderly. A pre-designed, pre-tested semi structured questionnaire was used to collect socio-demographic information and a complete clinical examination was performed among the study subjects to assess chronic morbid conditions.

**Results:** Mean scores of quality of life domains were higher among elderly of 70-79 years age group in physical, psychological, social relationship and environmental domains from other age groups. The mean quality of life scores were found to be higher among elderly without psychosocial and health related problems. Relation between physical health domain and marital status were statistically significant ( $p < 0.05$ ). About 44.4% of elderly living with their family or wife were of average psychological health, while 33.5% elderly living alone were of poor psychological health and relation was statistically significant ( $p < 0.05$ ). Association between marital status with psychological health was statistically significant and SES with social relationship was statistically significant ( $p < 0.05$ )

**Conclusion:** The study findings indicate that the elderly population living in Satrikh, Barabanki suffer from relatively poor QOL particularly among elderly women and those with lower education. Indeed to improve QOL among elderly, much more attention should be paid to all aspects of their life including health and economic status.

**Keywords:** Elderly, Rural, Quality of life, WHO-BREF.

### Introduction

Elderly are considered as a liability, but they are precious assets for any country because their rich experiences and wisdom are always needed for sustenance and progress of any Nation. They have special health and socio-economic needs which differ from those of general population. As per WHO elderly are further classified as “young olds” (62-74 years), “old –old” (75-84 years) and “very old” (more than 85 years).<sup>(1)</sup> In the developing countries the elderly population has been growing at a phenomenal rate. India has now acquired the tag of an upcoming ageing nation, with 8.1% of its population being more than 60 years of age. According to 2011 census the elderly population of India accounted for 103 million which was 77 million in 2001 and the proportion of elderly people in India raised from 5.63 per cent in 1961 to 6.58 per cent in 1991.<sup>(2)</sup> The proportion is likely to reach 12 per cent in 2031 and 17 per cent in 2051.<sup>(3)</sup> Due to rapid urbanization breakdown in family, reduction in family support, economic insecurity, social isolation and elderly abuse leads to psychological illness. As the world started to experience population ageing, it is important to consider and address the elderly people’s needs and concerns, which might have direct impact on their well-being. World Health Organization defined 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.”<sup>(4)</sup> Globally, QOL among elderly is quite a significant matter of concern as it reflects both the health status as well as well-being of this vulnerable population. The concerns related to QOL in elderly people are different from that of the general population.<sup>(5)</sup> In view of the above, the present study was conducted to analyse the QOL and its associated factors among this vulnerable population so that effective interventions can be developed accordingly.

### Material and Methods

**Study design:** Study design was cross-sectional.

**Study Duration:** August 2015 to July 2016.

**Study population:** The study population comprised of individual of either sex of old age persons (age  $\geq 60$  years) from general population residing in catchment area of Rural Health Training Centre, Satrikh, Hind Institute of Medical Sciences, Barabanki district UP.

**Study unit:** Elderly ( $\geq 60$  years) from general population residing in catchment area of Rural Health Training Centre of Hind Institute of Medical Sciences, Barabanki, UP.

**Sampling technique:** A maximum 782 elderly persons were enrolled using multistage sampling during the study period. In order to recruit the study subjects, 16 villages under RHTC, Satrikh were selected. In a village, all the houses were numbered serially. The first house was selected randomly and the subsequent houses were selected using a table of random numbers to ensure that every household with in the village has same probability of being sampled. From each house one eligible participant was selected, 50 participants were selected from a village. In the similar manner participants were selected from all the 16 villages to obtained the desired of sample size of 782. All participants were interviewed at their home those who were not available for interview at that time were asked for another appointment.

**Method of Data Collection:** The study subjects were approached at their homes and the data was collected on socio-demographic factors and morbidity status of the subjects using structured questionnaire after obtaining informed consent. Data on socio demographic characteristics that include age, sex, education, family type, marital status etc., were collected using a structured questionnaire. Morbid conditions were assessed based on history given by subjects and complete clinical examinations.

**Study Tool:** The WHOQOL-bref (Saxena et.al., 1998) is a self-assessment instrument for assessment of quality of life in human being.<sup>(6)</sup> Hindi version was used in the study it consists of 26 questions, divided into 4 domains, and includes two general questions about quality of life (QOL). The questions of the different sections of the instrument use the *Likert* response scale. The scores of all 4 domains were converted into Sten scores which lie between 0-100 (the higher the score, the better is the supposed quality of life of elderly for that domain). Overall Quality of life was calculated by sum of Sten

scores of all four domains (Physical, Psychological, Social relationships, Environmental) and converting it into scale of 0-100.<sup>(7)</sup> Obtained Sten score (0-100) is further divided into 5 categories to identify level of quality of life on different domains in the study (Very Poor: 0-20, Poor: 20-40, Average (Neither poor nor good): 40-60, Good :60-80, Very Good: 80-100).<sup>(8)</sup>

**Statistical Analysis:** Data was entered in Microsoft excel and the major findings were reported in terms of mean and SD. Difference between mean scores was tested by using independent sample t-test and ANOVA (Analysis of variance). P-value less than 0.05 were considered as significant.

**Results**

Overall, in elderly population a maximum of 46.5% elderly had average quality of life followed by 33.9% who had poor quality of life. Among age group 60-69 years a maximum 46.2% elderly had average quality of life followed by 33.6% had poor quality of life, while in age group 70-79 years maximum 54.8% had average quality of life. In age group ≥80 years maximum 37.0% had average quality of life. [Fig. 1] Mean scores of quality of life domains were higher among elderly of 70-79 years age group in physical, psychological, social relationship and environmental domains from other age groups. The mean quality of life scores were found to be higher among elderly without psychosocial problems. [Table 1] The mean quality of life scores of these domains is average among elderly with health related problems. In case of physical health, psychological health, social relationship and environmental health difference in mean score between all groups were statistically significant. [Table 2]

**Table 1: Comparison of various domains of quality of life according to psychosocial problems (n=782)**

Domain of quality of life (n=782)	Psychosocial problems		t test	p value
	Present (n=538)	Absent (n=244)		
	Mean score ±SD	Mean score ±SD		
Physical health	48.02±17.97	54.20±15.83	4.61	p<0.001
Psychological health	48.18±19.87	54.66±17.91	4.35	p<0.001
Social relationship	45.81±19.83	53.24±16.52	5.46	p<0.001
Environmental health	53.86±18.73	47.47±20.91	4.08	p<0.001

**Table 2: Comparison of various domains of quality of life according to health problems (n=782)**

Domain of quality of life (n=782)	Health problems		t test	p value
	Present (n=483)	Absent (n=299)		
	Mean score ±SD	Mean score ±SD		
Physical health	52.37±19.50	46.05±12.97	4.96	p<0.001
Psychological health	53.40±22.07	45.04±12.88	5.94	p<0.001
Social relationship	50.35±21.49	44.54±13.94	4.16	p<0.001
Environmental health	52.80±22.98	44.09±14.05	5.89	p<0.001

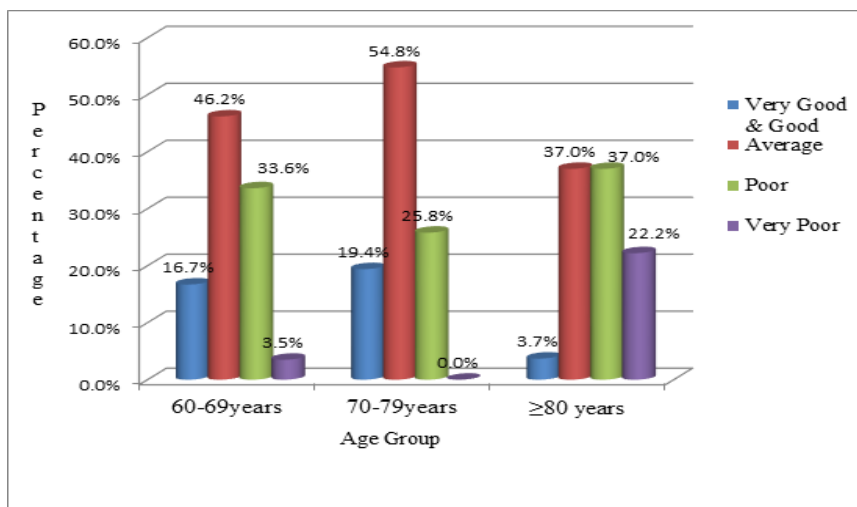


Fig. 1: Distribution of study population according to quality of life in age groups

In age group 60-69 years, 46.2% elderly had average physical health followed by 33.6% elderly with poor physical health, where as in ≥80 years age group, majority 22.2% of the elderly had poor physical health and relation between physical health and age group was statistically significant ( $p < 0.05$ ). Relation between physical health and marital status were statistically significant ( $p < 0.05$ ). Majority of elderly 5.4% with health related issue were of poor physical health and almost half percent elderly with no health related issue had average physical health ( $p < 0.05$ ). [Table 3]

Table 3: Distribution of study population according to physical health domain for quality of life (n=782)

Characteristics	Physical health domain								Total		Chi-square	p value
	Very poor		Poor		Average		Good and very good					
	n	%	n	%	n	%	n	%	n	%		
<b>Age Group (years)</b>												
60-69	24	3.5	233	33.6	320	46.2	116	16.7	693	100	32.07	p<0.001
70-79	0	0.0	16	25.8	34	54.8	12	19.4	62	100		
≥80	6	22.2	10	37.0	10	37.0	1	3.7	27	100		
<b>Marital status</b>												
Widows/widower	12	2.1	203	36.1	248	44.0	100	17.8	563	100	25.11	p<0.001
Married	18	8.2	56	25.6	116	53.0	29	13.2	219	100		
Total	30	3.8	259	33.1	364	46.5	129	16.5	782	100		
<b>Addiction</b>												
Present	13	3.7	125	35.3	140	39.5	76	21.5	354	100	17.4	p<0.001
Absent	17	4.0	134	31.3	224	52.3	53	12.4	428	100		
<b>Health related problem</b>												
Present	26	5.4	142	29.4	198	41.0	117	24.2	483	100	67.2	p<0.001
Absent	4	1.3	117	39.1	166	55.5	12	4.0	299	100		

About 44.4% of elderly living with their family or wife were of average psychological health, while 33.5% elderly living alone were of poor psychological health and relation was statistically significant ( $p < 0.05$ ). Relation between Marital status and psychological health was statistically significant ( $p < 0.05$ ). Financially independent were of average psychological health 49.7% and 19.5% elderly with good and very good psychological health and the relation was statistically

significant ( $p < 0.05$ ). Elderly who had no psychosocial problems 18.9% were of good or very good psychosocial health with a statistically significant ( $p < 0.05$ ). About 48.6% of elderly with no mental health problems were of average psychological health [Table 4] Relation between SES and social relationship was statistically significant ( $p < 0.05$ ). [Table 5]. Relationship between SES and environment health were statistically significant ( $p < 0.05$ ). [Table 6]

**Table 4: Distribution of study population according to psychological health domain for quality of life (n=782)**

Biosocial characteristics (No.)	Psychological health domain								Total		Chi-square	p value
	Very poor		Poor		Average		Good and very good					
	n	%	n	%	n	%	n	%	n	%		
<b>Living arrangement</b>											12.0	p<0.001
Living with family	22	3.6	199	33.0	268	44.4	114	18.9	603	100		
Living alone/nuclear	8	4.5	60	33.5	96	53.6	15	8.4	179	100		
<b>Marital status</b>											25.1	p<0.001
Widows/widower	12	2.1	203	36.1	248	44.0	100	17.8	563	100		
Married	18	8.2	56	25.6	116	53.0	29	13.2	219	100		
<b>Financial dependency</b>											12.6	p<0.001
Totally dependent	20	4.8	157	37.6	183	43.8	58	13.9	418	100		
Independent/partially	30	2.7	102	28.0	181	49.7	71	19.5	364	100		
<b>Psychosocial issue</b>											39.6	p<0.001
Present	29	5.4	207	38.5	219	40.7	83	15.4	538	100		
Absent	1	0.4	52	21.3	145	59.4	46	18.9	244	100		
<b>Mental health problems</b>											21.9	p<0.001
Present	14	9.9	45	31.3	53	37.3	30	21.1	142	100		
Absent	16	2.5	214	33.4	311	48.6	99	15.5	640	100		

**Table 5: Distribution of study population according to social relationship domain for quality of life (n=782)**

Biosocial characteristics	Social relationship								Total		Chi-square	p value
	Very poor		Poor		Average		Good and very good					
	n	%	n	%	n	%	n	%	n	%		
<b>Living arrangement</b>											12.02	p<0.001
Living with family	22	3.6	199	33.0	268	44.4	114	18.9	603	100		
Living alone/nuclear	8	4.5	60	33.5	96	53.6	15	8.4	179	100		
<b>Marital status</b>											25.11	p<0.001
Widows/widower	12	2.1	203	36.1	248	44.0	100	17.8	563	100		
Married	18	8.2	56	25.6	116	53.0	29	13.2	219	100		
<b>Socio economic status</b>											60.19	p<0.001
Upper class	00	0.0	31	59.6	17	32.7	4	4.7	24	100		
Upper middle class	8	15.1	8	15.1	28	52.8	9	17.0	53	100		
Middle class	8	5.0	46	28.9	74	46.5	31	19.5	159	100		
Lower middle class	9	2.8	98	28.7	167	48.8	68	19.9	342	100		
Lower class	5	2.8	76	43.2	78	44.3	17	9.7	176	100		
Total	30	3.8	259	33.1	364	46.5	129	16.5	782	100		

**Table 6: Distribution of study population according to environmental health domain for quality of life**

(n=782)

Biosocial characteristics (No.)	Environmental Health								Total		Chi-square	p value
	Very poor		Poor		Average		Good and very good					
	n	%	n	%	n	%	n	%	n	%		
<b>Living arrangement</b>											12.02	p<0.001
Living with family	22	3.6	199	33.0	268	44.4	114	18.9	603	100		
Living alone/nuclear	8	4.5	60	33.5	96	53.6	15	8.4	179	100		
<b>Socio economic status</b>											60.19	p<0.001
Upper class	00	0.0	31	59.6	17	32.7	4	4.7	24	100		
Upper middle class	8	15.1	8	15.1	28	52.8	9	17.0	53	100		
Middle class	8	5.0	46	28.9	74	46.5	31	19.5	159	100		
Lower middle class	9	2.8	98	28.7	167	48.8	68	19.9	342	100		
Lower class	5	2.8	76	43.2	78	44.3	17	9.7	176	100		

## Discussion

In the present study it was observed that in elderly who were single, 53.0% had average quality of life and 17.8% had good and very good quality of life. Relation between physical health and marital status were statistically significant ( $P < 0.05$ ). Kumar *et al.*, (2014) in their study reported that QOL were significantly low among those with no schooling, nuclear family, and not receiving pension and not with partner.<sup>(9)</sup> The mean quality of life scores of these domains were found to be higher among elderly female than elderly male. On gender wise comparison of various domains of quality of life, males had highest score in psychological health domain whereas females had highest in social relationship domain. Praveen and Rani, (2016) in their study reported the score for social relationship domain was comparatively lower than psychological, physical and environmental domains.<sup>(10)</sup> Bishak *et al.*, (2014) in their study observed that scores for quality of life in both genders were  $90.75 \pm 13.37$ . Also, there were no significant differences between gender and age variables with total score in the quality of life.<sup>(11)</sup> Kumar *et al.*, (2014) in their study found the overall mean (SD) score of QOL to be found average.<sup>(9)</sup> Health education with regard to activity and environmental changes and increase in social relationship might help in improving the QOL among the elderly population. Khan *et al.*, (2014) in their study found that elderly males were showed the higher mean domains score in all domains except overall QOL whereas elderly female showed higher mean score in overall QOL domain.<sup>(12)</sup> Mudey *et al.*, (2011) in their study showed that significant difference psychological domain in urban area.<sup>(13)</sup> In present study, it was observed that about 44.4% of elderly livings with their family or wife were of average quality of life, while 33.5% elderly living alone were of poor quality of life. This difference in psychological domain was found statistically significant. Forsman *et al.*, (2016) in their study reported overall, psychosocial interventions had a positive effect on quality of life and positive mental health.<sup>(14)</sup> Khan *et al.*, (2014) in their study found elderly who were workless and lived in the joint family had better mean score in physical and environmental domain respectively.<sup>(12)</sup> In present study, it was observed that in lower class 44.3% had average quality of life and 43.2% had poor quality of life. Gureje *et al.*, (2008), in their study, showed that, Economic status were the most consistent predictor of the four domains of quality of life.<sup>(15)</sup> In present study, it was observed that there was statistically significant difference in the mean score of physical health, psychological health, social-relationship and environmental health between elderly with psychosocial issue/s and elderly without psychosocial issue/s. Thadathil *et al.*, (2015) in their study reported that the mean scores of QOL domains were maximum in physical health 42.44, followed by social relationship 42.16.<sup>(16)</sup> Kaur *et al.*, (2015), in their study among

medically healthy elderly people found enhanced QOL and those who performed their daily activities independently also had superior QOL. Elderly people who got support from their family members had an enhanced QOL.<sup>(17)</sup> Similar to Hameed *et al.*, (2014) perceived overall quality of life scores were found to have better social relations in males as compared to females. Among the literates and currently married elderly, all the domain scores were higher compared to illiterates and those without partners respectively.<sup>(18)</sup> Khan *et al.*, (2014) in their study reported most common health complications are insomnia and eye problems.<sup>(12)</sup> Tavares *et al.*, (2012) in their study showed that, in the physical domain for quality of life as the number of morbidities increased, there were significant reductions in the quality of life score of the elderly.<sup>(19)</sup> Similar to Thadathil *et al.*, (2015) higher income, 60-69 years age group, staying with partner and absence of co-morbidity were found to be the determinants of better QOL score ( $p > 0.05$ ).<sup>(16)</sup> Similar to the findings of current study Kaur *et al.*, (2015), in their study reported those who were financially independent had a healthier QOL.<sup>(17)</sup>

## Conclusions

QOL score among elderly were sub average. Empowerment of elderly in all the aspects by creating favourable opportunities for elderly might help to increase QOL scores. Involvement in recreational activities and environmental modification along with family support could help in enhancing QOL among the elderly population. Apart from that their health need should also be addressed on through regular, sustained and easily accessible modes.

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