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Quality of Life of Elderly in Rural Murshidabad (West Bengal)

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Abstract

This study explains the quality of life among the elderly in rural Murshidabad. A community-based cross-sectional design was adopted for it. Descriptive statistics, boxplot, t-test, analysis of variance (ANOVA), and linear regression were used for the analysis of data. The overall score of quality of life (QOL) was 41.92±7.69 where 38.53±9.12 for the physical domain; 40.28±8.12 for the psychological domain; 40.11±10.98 for the social relationship domain; and 47.59±7.69 for the environmental domain. The findings revealed that OQOL had a strong negative association with age of the elderly. Wealth status also had a significant negative association with all the domains of quality of life. Further, unemployed elderly had a lower QOL in each domain.

Keywords: Elderly population, quality of life, WHO quality of life-BREF

I. Introduction

One of the most critical challenges faced by most countries around the world is population aging: the process of the rising share of the older population and consequently declining share of younger is brought about by both declining fertility and prolonged longevity (Raggi et al., 2016). Aging is a universal and biological phenomenon which is accompanied by physical deterioration, increased risk of disease, functional deterioration and disability. It is a reality experienced by the elderly irrespective of their socio-economic and environmental factors. The percentage of people aged 60+ increased from 7.5 per cent in 2001 to 8.6 per cent in 2011 and is projected to reach 19 per cent by 2050 (UNFPA, 2017). Currently, India is experiencing a demographic transition due to fertility decline, availability and accessibility of adequate health care services, and modern medical advancements (Bloom et al., 2013; Bloom et al., 2003). As a result of this demographic transition, life expectancy of people has increased in India leading towards ageing (Bloom et al., 2003). However, ageing increases the risk of physical, mental and social deterioration of a person affecting the overall quality of life (OQOL). In addition, increased life expectancy leads to an increased burden of diseases, especially non-communicable diseases (Lee et al., 2012).

In such a situation, healthy aging has become the focal theme of aging research. India has the world's largest aged population and most of it resides in rural areas (GOI, 2016). Technological advances in health care and improvement in living standards not only improve longevity, but also change the age structure of population and a higher dependency ratio (Bloom et al., 2003). Ageing is also associated with coexistence of multiple morbidities and the most common morbidities are depression (31.4%), musculoskeletal problems (25.5%), hypertension (24.1%), gastrointestinal problems (11.5%), diabetes (5.9%), and neurological disorders (4.7%) (Kamble et al., 2012). Rapid economic growth, modernisation, and urbanisation led to an increase in nuclear families resulting in loneliness, moving to the old age homes and nursing homes (Bloom et al., 2003). Moreover, loss of spouse, retirement, lack of social support and financial crisis led to psychological distress and loss

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of physical and functional capacity worsen the OQOL in old age (Jacob et al., 2007; Joshi et al., 2003; Mendenhall et al., 2017' Lee et al., 2012; Mahal et al., 2010; Mirowsky and Ross, 1992; Kinra et al., 2010). The World Health Organization (WHO) has defined healthy aging as "the process of developing and maintaining the functional ability that enables well-being in older age" (WHO, 2015). Expectedly, healthy aging has an impact on the quality of life (QOL) (Raggi et al., 2016), and so understanding its determinants in a healthy aging perspective is the primary relevance of this study.

There is a need to reappraise the QOL of this vulnerable rural population. Although, many studies have been carried out globally to assess the QOL among elderly (Vitorino et al., 2012; Apidechkul, 2011; Bodur & Cingil, 2009; Alexandre et al., 2009; Hickey et al., 2005; Salaffi et al., 2005), only limited studies addressed the same in the Indian context (Barua et al., 2007; Jacob et al., 2007). It was known that the QOL among the elderly population was influenced by several socio-demographic factors like place of residence, education, age, marital status, economic status, and family structure (Vitorino et al., 2012; Husain & Ghosh, 2011; Barua et al., 2007). While many studies have reported that the QOL among women is worse compared with men (Lima et al., 2009; Tajvar, et al., 2008), a few have also reported that it is slightly bad among men (Khaje-Bishak et al., 2014). A community-based research among elderly people in a rural area of west Bengal found that increasing age, financial crisis and presence of comorbidities deteriorate the QOL of elderly (Dasgupta et al., 2018). A study conducted in Kottayam District of Kerala found that physical health, psychological health and environment of rural elderly are poorer as compared with urban elderly (Usha & Lalitha, 2016). So, there is a dearth of information on the determinants of QOL among the elderly population, especially in developing countries including India. The present study attempts to understand the socio-demographic profile of the elderly and assesses the QOL among the elderly at Halsanapara and Chowrigacha which are rural areas of Murshidabad district in West Bengal.

II. Material and Methods

A community based cross-sectional design was adopted for the study. All people aged ≥ 60 years were selected since it was a community-based study with the following inclusion criteria: aged ≥ 60 years, permanent resident in the study area, no evidence of severe mental disease or cognitive disorders, no hearing or speech impairment, cognitively able to grant informed consent and physically able to engage in 30-35 minutes for the survey. By considering the time and resources at the disposal of the first author, the two villages were purposively selected. The institutional ethics committee of the IIPS approved the study beforehand. The purpose of the study and data collection procedure were described to the Gram Pradhans (elected heads). The objective of the study and the time required to complete questionnaires were explained to each respondent. Confidentiality was also explained to them to refuse to answer any question and withdraw from the study at any time. The study did not offer any incentives in either cash or kind for participation. The entire interview, including the questionnaire, and the scales used were conducted in the local language Bengali. The first author carried out the fieldwork for the study during the months of January and February in 2018.

The sample of this study comprises of 203 elderly people aged 60 years and above. Many questions were asked related to QOL and other socio-economic and demographic characteristics of the elderly. QOL includes physical health, psychological health, social relationship, environment of the elderly and OQOL. These variables are dependent and continuous in nature. A list of independent variables was included in the study. These are sex of elderly (male/female), age (younger 60-69 years, old 70-79 years, oldest ≥80 years), years of schooling (no schooling, 1-5 years, >5 years), marital status (currently married, separated/divorced/widow/widower), wealth status (poor, middle, rich), religion (Hindu/Muslim), caste (SC/ST, OBC, others), living-arrangement (alone, with one member, with two-three members, with more than three members) and occupation (unemployed/employed).

Measuring the Quality of Life

WHO defines QOL "as an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards, and concerns. It is a broad-ranging concept affected in a complex way by the person's physical health, psychological state, level of independence, social relationships, personal beliefs, and their relationship to salient features of their environment". Currently one of the most commonly used QOL instruments is the World Health Organization's Quality of Life (WHOQOL) instrument. The WHOQOL 100 is a 100 items instrument which will focus on representing 24 facets organized into six domains: (a) physical domain, (b) psychological domain, (c) level of independence, (d) social relationships, (e) environment, and (f) spirituality/religion/personal beliefs. The WHOQOL-100 is designed to be applicable cross-culturally. During its development phase, the instrument was simultaneously developed in different cultures and languages by taking into account an individual's belief and the situation in life. Subsequently, the WHOQOL-BREF contains one item from each of the 24 facets of QOL included in the WHOQOL-100 plus two "benchmark" items from the general facet of OQOL and general health. The five points Likert interval scales, with four domains, titled WHOQOL-BREF were designed and tested to reflect intensity, capacity, frequency and evaluation. Items inquire 'how much', 'how completely,' 'how often', 'how good' or 'how satisfied' the respondent felt in the last four weeks. The WHOQOL-BREF contains a total of 26 questions. All of them deal with physical health, psychology, social relationship, and environment of an individual's life in the last four weeks. So it is possible to derive four domain scores that denote an individual's perception of the QOL in each particular domain.

Cronbach's Alpha was used to test the reliability of indicators. The value of greater than 0.7 is acceptable for the validity and reliability of items, and the present study found a good reliability Cronbach's Alpha value of 0.76.

Statistical analyses were carried out in two stages: in the first stage descriptive statistics, percentages, mean and box plots were used for showing the distribution of the elderly by background characteristics. Inferential statistics where t-test and analysis of variance (ANOVA) were used in the second stage to estimate the association between independent and dependent variables. Similarly, linear regression model was applied to validate the relationship of outcome variables along with all the socio-economic and demographic characteristics of the study population. P-value<0.05 was considered for significant level.

III. Results

Table 1 shows that the mean OQOL score was 41.92. The mean QOL score was maximum for environmental domain (47.59), followed by psychological domain (40.28) and social relationships domain (40.11). The lowest mean score was seen in physical health domain (38.53).

Table 1: Descriptive statistics of domain-wise quality of life of elderly, Rural Murshidabad, West Bengal

Quality of life	N	Mean	Std. Dev.	Min	Max
Overall quality of life	203	41.92	7.69	14.71	51.96
Physical	203	38.53	9.12	9.09	54.55
Psychological	203	40.28	8.12	11.54	57.69
Social Relationships	203	40.11	10.98	8.33	75.00
Environmental	203	47.59	10.42	16.13	64.52

Note: N: Number of Sample; Std. Dev: Standard Deviation; Min: Minimum; Max: Maximum

Table 2 presents the percentage distribution of the elderly people by selected socio-economic and demographic characteristics. Around 66 per cent elderly were under 60-69 years age group and about 54.7 per cent were female participants. In terms of education, three-fourth of the elderly did

not attend school, 18.2 per cent reported 1-5 years of schooling and only 5.9 per cent elderly had more than six years of schooling. Further, about 63 per cent participants were currently married and unemployed. In terms of living conditions, nearly one-fourth of the elderly were living alone, and more than half of the older people belonged to the Muslim community.

The study found that the old elderly aged between 70 and 79 years, the years of schooling between 1 and 5 years, elderly belonging to rich wealth status and elderly living with two and three members had a better score in all the domains of QOL. This association was statistically significant among those domains whose p valve was less than 0.05.

Graph 1. Box Plot of the physical, psychological, social relationships, environmental and overall quality of life domains

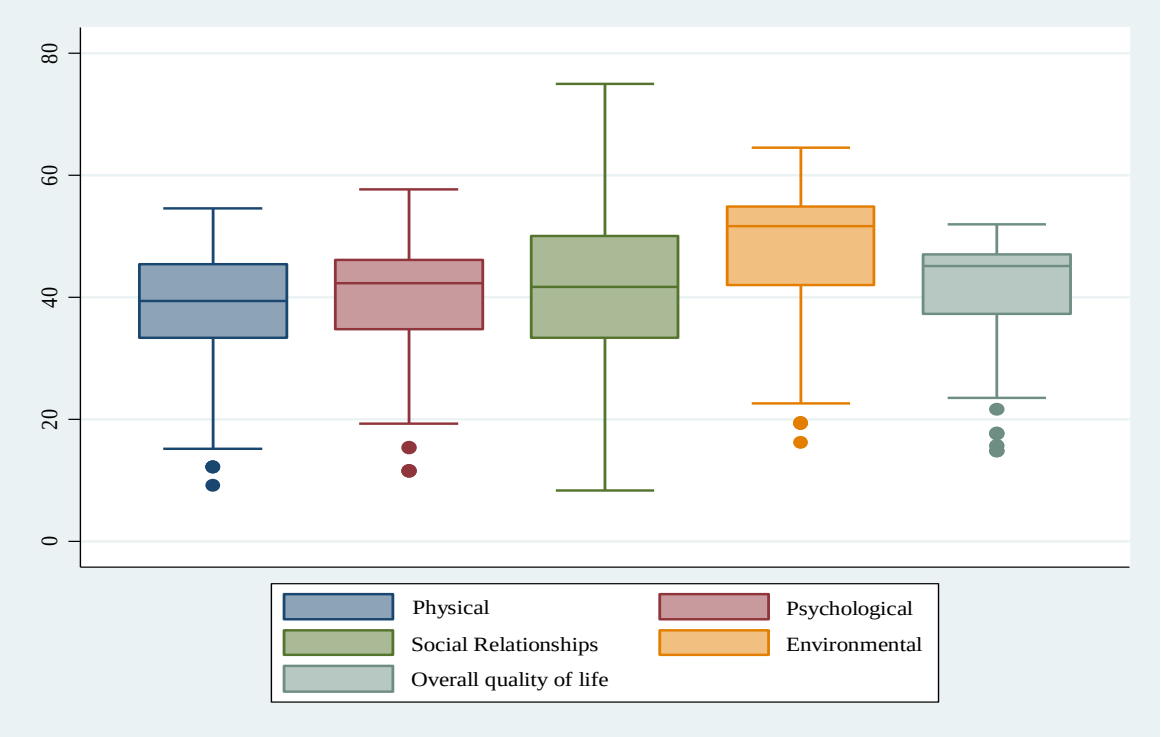

Table 3 presents the linear regression estimates of QOL for physical, psychological, social relationship, environmental and overall quality of life of the rural elderly after controlling all the socio-economic and demographic characteristics. The findings show that the oldest old (80 years and above) have a significant negative relationship with all the domains of QOL as compared with their younger old (60-69 years) counterparts. Elderly belonging to the poor wealth status have a significant negative relationship in all the domains of QOL, except for the social relationship domain compared with their richer counterparts. Similarly, elderly belonging to the middle wealth status also have a significant negative relationship with the physical health domain of QOL compared with the elderly belonging to rich wealth status.

IV. Discussion

This study investigated the QOL of the elderly from rural West Bengal. Several studies suggested that indicators of QOL worsen with advancing age which can be understood from the effect of chronic conditions among older people (Hunger et al., 2011; Parker et al., 2014). Some of the previous research did not confirm such a relationship between age and QOL (Garin et al., 2014; Low et al., 2013). The present study observed poor QOL among the elderly aged 80 and above which is substantiated by a study conducted by Sowmiya and Nagarani (2012) in rural area of Tamil Nadu.

Table 2. Quality of Life among rural elderly by socio-economic and demographic characteristics in Murshidabad, West Bengal (n=203)

Background characteristics		N	%	Physical	Psycho-logical	Social relationship	Environ-mental	Overall quality of life
Sex	Male	92	45.3	37.8	39.7	40.3	48.7	42.4
	Female	111	54.7	39.4	40.7	39.9	46.7	41.5
	p value*			0.2373	0.3684	0.8128	0.1817	0.4236
Elder age group	Youngest (60-69)	134	66.0	39.1	41.2	40.8	48.4	42.7
	Old (70-79)	59	29.1	40.2	41.2	41.7	49.0	43.3
	Oldest (80 & above)	10	4.9	20.6	22.7	21.7	28.4	23.6
	p value**			<0.001	<0.001	<0.001	<0.001	<0.001
Years of schooling	No schooling	154	75.9	37.5	40.0	39.9	46.6	41.2
	1-5 years	37	18.2	42.5	41.9	41.2	52.5	45.2
	≥6 years	12	5.9	39.9	39.1	38.9	45.7	41.3
	p value**			0.0086	0.3861	0.7566	0.0061	0.0142
Marital status	Curr married	129	63.4	38.6	40.8	41.2	47.7	42.3
	Sep/Div/Wid	74	36.6	38.4	39.3	38.2	47.3	41.3
	p value*			0.8524	0.2148	0.0576	0.7952	0.4066
Wealth status	Poor	68	33.5	34.9	38.0	40.0	42.7	38.6
	Middle	68	33.5	38.1	40.4	38.8	49.1	42.1
	Rich	67	33.0	42.7	42.5	41.5	51.1	45.1
	p value**			<0.001	0.0042	0.3603	<0.001	<0.001
Religion	Hindu	97	47.8	38.7	40.4	40.1	48.6	42.3
	Muslim	106	52.2	38.3	40.2	40.1	46.7	41.6
	p value*			0.7549	0.8878	0.9866	0.1944	0.4875
Caste	SCs/STs	128	63.0	37.4	41.9	41.4	47.3	42.0
	OBCs	58	28.6	39.9	38.5	40.2	48.2	42.1
	Others	17	8.4	38.8	39.8	39.5	47.7	41.8
	p value**			0.4908	0.1601	0.5658	0.9442	0.9842
Living arrangement	Living alone	49	24.1	37.2	38.9	36.1	46.4	40.3
	With one member	54	26.6	35.7	38.5	41.2	44.8	39.8
	With 2-3 members	48	23.7	40.8	41.8	42.4	49.7	44.0
	>3members	52	25.6	40.6	41.9	40.7	49.7	43.7
	p value**			0.0062	0.0501	0.0234	0.0356	0.0056
Occupation	Unemployed	128	63.1	38.2	40.3	39.8	47.2	41.6
	Employed	75	37.0	39.1	40.3	40.7	48.3	42.4
	p value*			0.5180	0.9709	0.5795	0.4599	0.5122

Note: N number of sample; % percentage value; p value* for t-test; p value** for ANOVA;
Curr Married/Sep/Div/Wid: Currently married, separated, widowed, divorced; SCs: Scheduled Castes; STs: Scheduled Tribes; OBCs: Other Backward Castes.

Education has been used as an indicator to address the socio-economic status (SES) and is a strong predictor of living standards and QOL for individuals. The study indicates that lower educational levels are associated with diminished QOL as compared with those having high school or academic degrees. Previous studies have also confirmed a similar relationships between education and QOL among the elderly (Sowmiyaand & Nagarani, 2012; Qadri et al., 2013; Jivraj & Nazroo, 2014; Ganesh Kumar et al., 2014; Luthy et al., 2015; Ghosh et al., 2017).

In this study, the female elderly score better in physical and psychological domains and male elderly have better QOL scores in social relationship and environmental domains. Many studies have reported that males have a better QOL in almost every domain (Shah et al., 2017; Khaje-Bishak et al., 2014). One study has reported that females have a better QOL in almost every domain (Karmakar et al., 2018). In the same way, one study showed that there is no statistically significance relationship between males and females in almost all the domains (Hameed et al., 2014). The present study has revealed that married elderly have a better social relationship and psychological conditions than their widowed, divorced and separated counterparts (Qadri et al., 2013; Ghosh et al., 2017), indicating that marriage offers a protective mechanism against psychological illness. At advanced age, people feel lonely and have fewer social networks. In such situations, being married plays an important role and living with a partner might help to get social and emotional support with a better score in QOL (Han et al., 2014).

In India caste can be understood as a robust predictor of socio-economic condition, and lower caste people are expected to have lower QOL score. This study reveals that the elderly belonging to SCc/SCs have worse QOL score which is corroborated by a previous study (Qadri et al., 2013). In addition, this study also reveals that QOL is worse among Muslim elderly as well compared with Hindus. Living arrangements and co-residence have been a significant predictor of QOL, especially in later life. Likewise, one study found that elderly have better QOL who stay with their children (Ghosh et al., 2017). As discussed above, social network and support have a positive impact on health-related QOL (Borglin et al., 2006; García et al., 2005).

Table 3 Results from linear regression estimate: Coefficients of quality of life among rural elderly of Murshidabad District, West Bengal (n=203)

Characteristics	Coefficient (CI) Physical	Coefficient (CI) Psychological	Coefficient (CI) Social relationship	Coefficient (CI) Environment	Coefficient (CI) Overall quality of life
Gender					
Male®	1.00	1.00	1.00	1.00	1.00
Female	0.65 (-2.22, 3.51)	-1.97 (-4.58, 0.64)	-0.58 (-4.49, 3.33)	1.35 (-1.98, 4.68)	0.05 (-2.25, 2.35)
Age group					
Youngest®	1.00	1.00	1.00	1.00	1.00
Old	1.04 (-1.75, 3.82)	0.71 (-1.82, 3.24)	2.36 (-1.44, 6.16)	-0.10 (-3.33, 3.14)	0.76 (-1.47, 2.99)
Oldest	-19.07*** (-24.63, -13.52)	-17.74*** (-22.79, -12.69)	-16.10*** (-23.69, -8.52)	-21.74*** (-28.2, -15.29)	-19.19*** (-23.66, -14.73)
Years of schooling					
No schooling	-2.03 (-6.86, 2.8)	0.11 (-4.28, 4.5)	1.92 (-4.67, 8.52)	2.06 (-3.55, 7.67)	0.22 (-3.66, 4.10)
1-5	1.17(-4.06,6.4)	0.71 (-4.05, 5.47)	1.66 (-5.48, 8.81)	5.40 (-0.67, 11.48)	2.40 (-1.8, 6.60)
≥6®	1.00	1.00	1.00	1.00	1.00
Marital status					
Curr married®	1.00	1.00	1.00	1.00	1.00
Sep/Div/Wid	2.81 (-0.31, 5.92)	-1.15 (-3.98, 1.68)	-0.71 (-4.97, 3.55)	2.76 (-0.86, 6.38)	1.37 (-1.13, 3.87)
Wealth status					
Poor	-6.09*** (-9.18, -3.01)	-3.77** (-6.57, -0.96)	-0.09 (-4.31, 4.12)	-5.73** (-9.31, -2.14)	-4.68*** (-7.16, -2.20)
Middle	-3.70** (-6.73, -0.67)	-1.31 (-4.06, 1.45)	-0.90 (-5.04, 3.24)	0.08 (-3.44, 3.60)	-1.61 (-4.04, 0.82)
Rich®	1.00	1.00	1.00	1.00	1.00
Religion					
Hindu®	1.00	1.00	1.00	1.00	1.00
Muslim	-0.82 (-4.2, 2.56)	1.76 (-1.32, 4.83)	1.30 (-3.32, 5.91)	-3.67 (-7.6, 0.26)	-0.78 (-3.49, 1.94)
Caste					
SCs/STs	-2.65 (-6.29, 0.99)	2.67 (-0.64, 5.98)	2.42 (-2.55, 7.39)	-3.93 (-8.16, 0.31)	-1.09 (-4.01, 1.84)
OBCs	-1.65 (-6.57, 3.26)	-1.80 (-6.27, 2.67)	1.04 (-5.67, 7.76)	-3.71 (-9.42, 2.01)	-2 (-5.95, 1.95)
Others®	1.00	1.00	1.00	1.00	1.00
Living arrangement with members					
Living alone	1.26 (-3.02, 5.53)	1.22 (-2.66, 5.11)	-2.59 (-8.43, 3.25)	1.09 (-3.88, 6.06)	0.74 (-2.69, 4.18)
Living with 1	-1.76 (-5.04, 1.51)	-2.19 (-5.18, 0.79)	0.53 (-3.94, 5.01)	-1.74 (-5.55, 2.07)	-1.60 (-4.23, 1.04)
2-3	0.89 (-2.24, 4.01)	0.67 (-2.18, 3.51)	2.12 (-2.15, 6.38)	0.59 (-3.04, 4.22)	0.89 (-1.62, 3.40)
>3®	1.00	1.00	1.00	1.00	1.00
Occupation					
Unemployed	0.75 (-1.93, 3.43)	0.26 (-2.18, 2.69)	0.36 (-3.3, 4.02)	0.59 (-2.52, 3.70)	0.53 (-1.62, 2.68)
Employed®	1.00	1.00	1.00	1.00	1.00
Constant	43.26*** (36.43, 50.1)	42.19*** (35.97, 48.4)	37.61*** (28.27, 46.94)	49.45*** (41.51, 57.40)	44.20*** (38.71, 49.70)

Note: *** p<0.01,**; p<0.05; ® Reference category; CI Confidence Interval. Curr Married/Sep/Div/Wid: Currently married, separated, widowed, divorced; SCs: Scheduled castes; STs: Scheduled tribes; OBCs: Other backward castes.

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