



A COMPARATIVE STUDY ON 'QUALITY OF LIFE' AMONG THE GERIATRIC POPULATION OF URBAN AND RURAL AREA OF WEST BENGAL.

Community Medicine

Dr. Apurba Chowdhury

Medical Officer, Mathabhanga S.D. Hospital, Cooch Behar, West Bengal.

Dr. Debadutta Chakrabarty

Assistant Professor, Department of Community Medicine, Medical College, Kolkata.

Dr. Pulak Kumar Jana

Assistant Professor, Department of Community Medicine, Murshidabad Medical College & Hospital.

Dr. Shibasish Banerjee*

Assistant Professor, Department of Community Medicine, Medical College, Kolkata.
*Corresponding Author

Dr. Soumitra Mondal

Demonstrator, Department of Community Medicine, Medical College, Kolkata.

ABSTRACT

Background: Geriatric population of India is increasing gradually. Geriatric population is more vulnerable to chronic health problems. **Objectives:** The study aimed to assess the quality of life (QOL) of geriatric population and to find out relationship between socio demographic Variables and quality of life Materials and Methods: This community based observational, descriptive & cross-sectional study was conducted in urban and rural field practice area of Community Medicine department, of a Medical College of West Bengal. Total 412 (206 each area) study population were interviewed and data were analysed. **Results:** Age group, type of Family, education and per-capita income, showing significant relationship with Physical domains of WHOQOL-(BREF) in urban area and mean age group showing significant relationship with Physical domains of WHOQOL (BREF) only in rural area. Education, Present occupation per-capita income and addiction status to alcohol showing significant relationship with Psychological domains of WHOQOL-(BREF) in urban and Religion, Mean age group, Type of Family is showing significant relationship. Religion, Mean age group, type of family, education and per-capita income showing significant relationship with social domains of WHOQOL (BREF) in urban and in rural areas, only religion showing significant relationship. Type of Family, education, per-capita income and Addiction status to alcohol, showing significant relationship with Environmental domains of WHOQOL (BREF) in urban area and In rural area religion, type of family and education showing significant relationship. **Conclusions:** The present study revealed that age group, type of family, religion, education, per capita income, occupation and addictions had significant effect on QOL.

KEYWORDS

Geriatric Population, Quality of Life, WHOQOL.

INTRODUCTION:

The world continues to experience an unprecedented and sustained change in the age structure of the global population, driven by increasing levels of life expectancy and decreasing levels of fertility. People are living longer lives, and both the share and the number of older persons in the total population are growing rapidly. Globally, there were 727 million persons aged 65 years or over in 2020. Since women live longer than men, on average, they comprise the majority of older persons, especially at advanced ages. Over the next three decades, the number of older persons worldwide is projected to more than double, reaching over 1.5 billion in 2050. All regions will see an increase in the size of the older population between 2020 and 2050. Globally, the share of the population aged 65 years or over is expected to increase from 9.3 per cent in 2020 to around 16.0 per cent in 2050 (United Nations et al., 2020).

According to Population Census 2011 there are nearly 104 million elderly persons (aged 60 years or above) in India; 53 million females and 51 million males. A report released by the United Nations Population Fund and HelpAge India suggests that the number of elderly persons is expected to grow to 173 million by 2026. Both the share and size of elderly population is increasing over time. From 5.6% in 1961 the proportion has increased to 8.6% in 2011. For males it was marginally lower at 8.2%, while for females it was 9.0%. As regards rural and urban areas, 71% of elderly population resides in rural areas while 29 % is in urban areas. In the age - group of 60 - 64 years, 76% persons were married while 22% were widowed. Remaining 2% were either never married or divorced. In rural areas, 66% of elderly men and 28% of elderly women were working, while in urban areas only 46% of elderly men and about 11% of elderly women were working. The percent of literates among elderly persons increased from 27% in 1991 to 44% in 2011. The literacy rates among elderly females (28%) is less than half of the literacy rate among elderly males (59%). Prevalence of heart diseases among elderly population was much higher in urban areas than in rural parts. Most common disability

among the aged persons was locomotor disability and visual disability as per Census 2011 (*Vikaspedia Domains*, n.d.).

Quality of life has been defined by the World Health Organization Quality of Life Group as "an individual's perception of their position in life in the context of the culture and value system in which they live and in relation to their goals, expectations, standards and concerns" ('The World Health Organization Quality of Life Assessment (WHOQOL)', 1995). The quality of life of older adults can be maintained at a high level, even with poor physical health, as long as they are satisfied with other domains of quality of life, such as the psychological, social relations, and environmental domains (Layte et al., 2013). For older adults, being in good health, feeling good, being active, having social relationships, helping other people, and living in a nice house in a good neighbourhood (e.g., availability of facilities and safety) are the most important factors for a good quality of life (Puts et al., 2007).

In measuring the impact of service innovations in aged care, researchers in health economics and other disciplines are increasingly recognising that quality of life is a multidimensional concept and the impact of interventions for older people goes beyond health status, incorporating psychosocial and emotional well-being, independence, personal beliefs, material well-being and the external environment that influences development and activity (*WHOQOL - Measuring Quality of Life* | The World Health Organization, n.d.) (Felce & Perry, 1995). Older people's interpretation of quality of life is based on their capability to achieve those things or participate in activities they value, viewing health as a resource to facilitate their participation in activities of daily living and social interactions (Milte et al., 2014) (Davis et al., 2013) (Coast, Flynn, et al., 2008). The value they obtain from health care services and other interventions goes beyond physical functioning or the health dimensions, as measured by health related quality of life (HRQOL) instruments, to include non-health dimensions such as security in their physical environment, independence, sense of value and attachment, which are only captured by broader instruments

(Makai et al., 2014) (Coast, Peters, et al., 2008). It is therefore important that instruments used to measure and value quality of life outcomes in the aged care sector capture such broader quality of life outcomes.

Many studies have been conducted to assess the associations between sociodemographic factors (sex, age, marital status, education, and income) and quality of life in older adults. However, no consensus exists on the effects of these factors on the quality of life of this target group. In relation to sex, Bilgili and Arpacı (Bilgili & Arpacı, 2014) found that men had higher scores on five of the six subscales of the World Health Organization Quality of Life Questionnaire-Older Adults Module (WHOQOL-OLD); they experienced a better quality of life than women & higher scores on quality of life among older people living in a marital relationship. In the study by Lee et al. (Lee et al., 2006) the quality of life of men was also higher than that of women. However, other studies have demonstrated no differences in quality of life between the two sexes. Soósová (Sovářiová Soósová, 2016) showed that living without a partner is negatively associated with quality of life. On the other hand, using the same instrument, Gobbens and Van Assen (Gobbens & van Assen, 2017) demonstrated that marital status (married or cohabiting) was only associated with the quality of life domain intimacy, after controlling for other sociodemographic factors (age, education, and income), multimorbidity, and multidimensional frailty. In a study by Gobbens et al. (Gobbens et al., 2013) higher education was only significantly associated with better psychological and environmental quality of life. Chen et al. (Chen et al., 2014) showed that low income was related to poor quality of life in older people living alone in China, although they found no differences in quality of life between medium-high and high economic-level groups. Kumar S et al. (Kumar S. et al., 2014) found that QOL was significantly low among those with no schooling, nuclear family, not receiving pension, not with partner, having musculoskeletal disorder, low vision & impaired ADL groups in univariate analysis.

Thus, in brief, a number of significant associations have been found with measures of quality of life, and the effects of sociodemographic factors on quality of life in older people appear to differ strongly. Factors that might interfere are the differences in the socioeconomic level of the various populations referred to in the literature, or their belonging to different cultures. Moreover, this may also be caused by the fact that different instruments have been used for measuring quality of life. Therefore, the main aim of the present cross-sectional study is to compare the effects of socio-demographic profile on quality of life assessed with WHOQOL-BREF in urban & rural geriatric population.

METHODOLOGY:

This community based observational, descriptive & cross-sectional study was conducted in the rural field practice area and urban slum which is urban field practice area of Community Medicine department of a Medical College situated at Kolkata, West Bengal. After clearing the Institutional Ethics Committee, the study was done from January 2021 to March 2021 by a semi-structured pretested schedule. As per Indian standard a person aging 60 years and above are considered as 'senior citizen' or 'geriatric age group' (6). In this study a person having 60 years and above are considered as geriatric population. Geriatric population (60 years & above) who are willing to participate, giving written consent & staying for at least one year in the study area were included in this study. Those who are absent or found block door, in his or her residence during the visit for data collection & those, who are admitted in the health care centre or seriously ill were excluded from this study.

Sample size was calculated by using the formula, $n = 4 \times p \times q / d^2$. Where confidence level is 95%, p-prevalence of geriatric morbidity, q- 4 (1-p) and d- allowable error. For the present study, p- 52.2%, (take from an earlier reference study) & after calculation, n- 366. Taking into account 10% as non-response rate, so the number of sample will be about $366 + 36.6 = 402.6$, after approximation it becomes 403. Finally, it has decided to collect a total of 412 complete samples, from the study areas. Now, these total 412 samples are to be divided equally in both urban and rural areas i.e. 206 complete samples from each area are to be collected for analysis and interpretation.

During house visit, after primary self-introduction and explanation regarding the purpose of this visit to all the family members, a written consent was taken from the respondent. Data of socio-demographic

status like age, gender, religion, residence, mother tongue, marital status, living arrangement, type of family, education, occupation, per-capita income, type of house, etc. QOL was assessed by using WHOQOL-BREF scale ('Development of the World Health Organization WHOQOL-BREF Quality of Life Assessment. The WHOQOL Group', 1998) which was tested and validated. This instrument contains four domains namely physical health, psychological, social relationships and environment with a total of 26 questions. Each of these domains were rated on a 5-point Likert scale. As per the WHO guidelines, 25 raw scores for each domain was calculated by adding values of single items and it was then transformed to a score ranging from 0 to 100, where 100 is the highest and 0 is the lowest value. The mean score of each domain, total score and average score were calculated. This questionnaire was translated to Bengali & Hindi and then, back to English to assess the liability of the instrument. Pilot-test was done before the survey.

ADL was assessed (Reijnveld et al., 2007) by using Katz ADL scale which contains 6 questions on various aspects of daily activities. The score ranging from 0 to 6, where 6 is the highest score with independence in ADL and 0 is the lowest score with highly dependent on ADL.

The collected data was compiled with the help of Microsoft excel & analyzed by SPSS version – 19, in terms of statistical methods like table, mean, standard deviation, chi square, z test, multiple logistic regression. Multiple linear regressions analysis was done to determine the independent effect of factors associated with QOL. P-value less than 0.05 was considered as significant.

RESULT:

In urban area, 69.4% of geriatric population belongs to 60-69 years & 48 % geriatric population belongs to 70-79 years of age groups whereas in rural area the findings are respectively 63.6 % & 30.6 %. The male geriatric population in urban & rural area are 54.9% & 50% respectively. This geriatric population 70.4 % in urban area & 81.6% in rural area live in joint family & 18.4 % were widow or widower, 1.9% either divorced or separated in urban area. Widowed/ widower was much more in rural area (37.9%) than urban (18.4%). Both in urban and rural areas, the majority of study population living with their spouse's (68.0%) followed by without spouse's (28.2%). Although the percentage of living with spouses are higher (77.2%) in urban areas, while living without spouses are higher (37.9%) among rural areas. In this study we found that overall 41.8% of present study population having overcrowding in their residence. Overcrowding is much higher (60%) in urban areas whereas in rural areas it is 24.0%. 43.7% of total geriatric populations are financially independent and out of 56.3% dependent populations, rural geriatric population shows marginally higher predominance (60.2%) over the urban (52.4%).

Table 1: Socio-demographic profile of study participants. n=412, (for urban, n=206 & rural, n=206)

Variable	Urban No. (percentage)	Rural No. (percentage)
Age (in years)		
60-69	143 (69.4)	131 (63.6)
70-79	48 (23.3)	63 (30.6)
More than 80	15 (7.3)	12 (5.8)
Gender		
Male	113 (54.9)	103 (50.0)
Female	93 (45.1)	103 (50.0)
Religion		
Hinduism	101 (49.0)	145 (59.7)
Islam	105 (51.0)	166 (40.3)
Type of family		
Nuclear	61 (29.6)	38 (18.4)
Joint	145 (70.4)	168 (81.6)
Marital status		
Married	159 (77.2)	121 (58.7)
Widow/widower	38 (18.4)	78 (37.9)
Divorced/separated	6 (2.9)	2 (1.0)
Unmarried	3 (1.5)	5 (2.4)
Living arrangement		
Alone	09 (4.4)	07 (3.4)
With spouse and with/ without children	159 (77.2)	121 (58.7)
Without spouse and with/ without children	38 (18.4)	78 (37.9)

Type of house		
Pucca	122 (59.2)	87 (42.2)
Kutcha	03 (1.5)	42 (20.4)
Mixed	81 (39.3)	77 (37.5)
Over-crowding		
Present	122 (59.2)	50 (24.0)
Absent	84 (40.8)	156 (76.0)
Literacy status		
Illiterate	44 (21.4)	43 (20.9)
Just literate	30 (14.6)	25 (12.1)
Primary	50 (24.2)	62 (30.1)
Middle	14 (6.8)	34 (16.5)
Secondary	19 (9.2)	28 (13.6)
Higher secondary	05 (2.4)	06 (2.9)
Graduate & above	44 (21.4)	08 (3.9)
Working status		
Working	98 (47.6)	82 (39.8)
Non-working	108 (52.4)	124 (60.2)
Financial dependent		
Dependent	108 (52.4)	232 (56.3)
Independent	98 (47.6)	180 (43.7)
Socio-economic status		
Class-I (≥ 6254)	41 (19.9)	02 (1.0)
Class-II (3127 – 6253)	105 (51.0)	41 (19.9)
Class-III (1876 – 3126)	50 (24.2)	98 (47.6)
Class-IV (938 – 1875)	07 (3.4)	61 (29.6)
Class-V (< 938)	03 (1.5)	04 (1.9)
Social problem		
Loneliness	105 (51.0)	88 (42.7)
Property dispute/ family dispute	41 (20.0)	20 (9.7)
Lack of adjustment with spouse	52 (25.2)	42 (20.3)
Lack of adjustment with others	37 (18.0)	38 (18.4)
Abuse of elderly (physical)	03 (1.4)	07 (3.3)
Lack of security	43 (20.8)	39 (18.9)

Table 2: Showing the results of determinants of Physical domain of WHOQOL-BREF among the study population. n=412, (for urban, n=206 & rural, n=206)

Variable	Urban				Rural			
	p-value	OR	95% CI for Exp-(B)		p-value	OR	95% CI for Exp-(B)	
			Lower	Upper			Lower	Upper
Gender	.669	.731	.175	3.064	.934	1.045	.365	2.991
Religion	.289	.581	.212	1.587	.255	.641	.298	1.378
Mean age group	.001	.114	.032	.413	.019	.401	.187	.861
Type of family	.027	3.573	1.158	11.022	.081	2.042	.916	4.553
Living arrangement	.984	1.011	.332	3.080	.522	.479	.050	4.550
Education status	.000	37.616	9.238	153.164	.072	1.921	.944	3.908
Marital status	.799	1.171	.348	3.933	.509	2.160	.220	21.210
Present occupation	.632	.778	.278	2.175	.613	.780	.298	2.042
Per capita income	.001	.015	.001	.190	.605	1.192	.612	2.323
Financial dependency	.088	.363	.113	1.164	.773	.884	.384	2.036
Addiction status to alcohol	.321	3.311	.835	13.327	.240	2.147	.600	7.676

In Table 2, urban population, Logistic regression done, Nagelkerke R square - 0.594. When adjusted for different variables, in urban areas, Age group ($<$ Mean and $>$ Mean), Type of Family (Nuclear & Joint), Education (Primary, and $>$ Primary) and Per-capita income ($<$ Mean and $>$ Mean), showing significant relationship with Physical domains of WHOQOL-(BREF).

Logistic regression done, Nagelkerke R square- 0.135. When adjusted

for different variables in rural areas, Mean age group ($<$ 69 & $>$ 69), showing significant relationship with Physical domains of WHOQOL (BREF) only.

Table 3: Showing the results of determinants of Psychological domain of WHOQOL-BREF among the study population. n=412, (for urban, n=206 & rural, n=206)

Variable	Urban				Rural			
	p-value	OR	95% CI for Exp-(B)		p-value	OR	95% CI for Exp-(B)	
			Lower	Upper			Lower	Upper
Gender	.328	.574	.189	1.746	.934	1.045	.365	2.991
Religion	.180	.608	.294	1.258	.255	.641	.298	1.378
Mean age group	.107	.490	.206	1.168	.019	.401	.187	.861
Type of family	.116	1.862	.858	4.039	.081	2.042	.916	4.553
Living arrangement	.315	1.740	.590	5.127	.522	.479	.050	4.550
Education status	.001	3.733	1.686	8.269	.072	1.921	.944	3.908
Marital status	.312	.552	.175	1.746	.509	2.160	.220	21.210
Present occupation	.018	2.787	1.188	6.537	.613	.780	.298	2.042
Per capita income	.028	.133	.022	.800	.605	1.192	.612	2.323
Financial dependency	.260	.635	.287	1.401	.773	.884	.384	2.036
Addiction status to alcohol	.203	4.096	1.213	13.836	.240	2.147	.600	7.676

Table 3, Logistic regression done, Nagelkerke R square- 0.311. When adjusted for different variables in urban areas, Education ($\leq$ Primary and $>$ Primary), Present occupation (Employed and Retired/unemployed), Per-capita income ($<$ Mean and $>$ Mean) and Addiction status to alcohol (Non-alcoholic and Alcoholic), showing significant relationship with Psychological domains of WHOQOL-(BREF).

Logistic regression done, Nagelkerke R square- 0.216. When adjusted for different variables in rural areas, Religion (Hindu & Islam) Mean age group ($<$ 69 & $>$ 69), Type of Family (Nuclear & Join) is showing significant relationship with Psychological domains of WHOQOL (BREF).

Table 4: Showing the results of determinants of Social domain of WHOQOL-BREF among the study population. n=412, (for urban, n=206 & rural, n=206)

Variable	Urban				Rural			
	p-value	OR	95% CI for Exp-(B)		p-value	OR	95% CI for Exp-(B)	
			Lower	Upper			Lower	Upper
Gender	.271	2.094	.561	7.814	.961	.973	.331	2.865
Religion	.005	.288	.122	.683	.000	.197	.085	.453
Mean age group	.000	7.505	2.523	22.324	.727	1.146	.532	2.467
Type of family	.003	4.795	1.731	13.280	.318	1.510	.672	3.392
Living arrangement	.192	2.263	.664	7.714	.240	.258	.027	2.467
Education status	.000	16.844	6.306	44.992	.672	1.168	.570	2.391
Marital status	.257	.472	.129	1.729	.310	3.260	.333	31.944
Present occupation	.675	1.244	.449	3.447	.920	.952	.364	2.488
Per capita income	.003	.024	.002	.284	.312	.698	.349	1.400
Financial dependency	.221	.536	.198	1.454	.348	1.501	.643	3.503
Addiction status to alcohol	.080	3.889	.852	17.745	.786	.848	.257	2.792

Table 4, Logistic regression done, Nagelkerke R square- 0.566. When adjusted for different variables in urban areas, Religion (Hindu & Islam), Mean age group (< Mean and >Mean), Type of Family (Nuclear & Joint). Education (<Primary, and >Primary) and Per-capita income (<Mean and >Mean), showing significant relationship with Social domains of WHOQOL (BREF).

Logistic regression done, Nagelkerke R square-0.153. When adjusted for different variables in rural areas, only Religion (Hindu & Islam) showing significant relationship with Social domains of WHOQOL (BREF).

Table 5: Showing the results of determinants of Environmental domain of WHOQOL-BREF among the study population. n=412, (for urban, n=206 & rural, n=206)

Variable	Urban				Rural			
	p-value	OR	95% CI for Exp-(B)		p-value	OR	95% CI for Exp-(B)	
			Lower	Upper			Lower	Upper
Gender	.486	.680	.229	2.014	.181	2.343	.673	8.153
Religion	.076	.514	.247	1.071	.009	.289	.115	.730
Mean age group	.518	1.317	.571	3.041	.111	.501	.215	1.171
Type of family	.054	2.202	.988	4.908	.053	2.545	.987	6.565
Living arrangement	.710	1.213	.439	3.353	.211	.222	.021	2.342
Education status	.002	3.587	1.621	7.938	.001	3.651	1.697	7.852
Marital status	.250	.532	.182	1.560	.225	4.382	.402	47.784
Present occupation	.351	1.497	.641	3.496	.512	.688	.225	2.105
Per capita income	.014	.092	.014	.621	.129	.542	.246	1.195
Financial dependency	.889	.944	.418	2.129	.885	.933	.366	2.383
Addiction status to alcohol	.003	9.398	2.140	41.273	.604	1.403	.390	5.049

Table 5, Logistic regression done, Nagelkerke R square- 0.329. When adjusted for different variables in urban areas, Type of Family (Nuclear & Joint), Education (<= Primary, and >Primary), Per-capita income (<Mean and >Mean) and Addiction status to alcohol (Non -alcoholic and Alcoholic), showing significant relationship with Environmental domains of WHOQOL (BREF).

Logistic regression done, Nagelkerke R square- 0.253. When adjusted for different variables in rural areas, Religion (Hindu & Islam). Type of Family (Nuclear & Joint) and Education (<= Primary, and >Primary), showing significant relationship with Environmental domains of WHOQOL (BREF).

DISCUSSION:

In the present study maximum number of elderlies belonged to age group 60–70 years (69.4%). Similar study was done by Saxena V, et al. (2012) (Saxena et al., 2012) in Dehradun showing that 74.6% elderlies belonged to 60–70 years age group. In the present study majority of elderlies were unemployed and similar results were shown by Soni S, et al. (2016) (Soni et al., 2016) at Bihar and Kapil U, et al. (2018) (Kapil et al., 2018) at Nainital, Uttarakhand. Also, in our study majority i.e. 56.3.0% of elderlies were dependant in rural areas and 53.4% in urban areas. Almost similar results were observed in study done by Soni S, et al. (2016) (Soni et al., 2016) at Bihar where dependency was 67.2%.

Age group, type of family, education and per-capita income, showing significant relationship with Physical domains of WHOQOL (BREF) in urban area and mean age group showing significant relationship with Physical domains of WHOQOL (BREF) only in rural area.

Education, present occupation, per-capita income and addiction status to alcohol showing significant relationship with Psychological domains of WHOQOL (BREF) in urban and Religion, Mean age group, Type of Family is showing significant relationship.

Religion, mean age group, type of family, education and per-capita

income, showing significant relationship with Social domains of WHOQOL (BREF) in urban and in rural areas, only Religion showing significant relationship.

Type of Family, Education, Per-capita income and Addiction status to alcohol, showing significant relationship with Environmental domains of WHOQOL (BREF) in urban area and in rural area Religion, type of Family and education showing significant relationship

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