Quality of life and its associated factors among the elderly population living in their own homes

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ABSTRACT

Introduction: Quality of life among elderly individuals is an important area of concern that reflects the health status and well-being of this vulnerable population. Quality of life among elderly individuals is a neglected issue, especially in developing countries such as Nepal. The objective of this study was to assess the quality of life and its associated factors among the elderly population living in their own homes. **Methods**: A community-based cross-sectional study was conducted among 234 elderly individuals living in the Syangja district of Nepal. Quality of life was assessed by the World Health Organization Quality of Life BREF (WHOQOL-BREF) tool. Sociodemographic data were recorded by using a structured questionnaire. Independent t-tests and multiple linear regression were performed. **Results:** Among 234 respondents, 54.7% of the elderly were 60 to 69 years old and 57.7% were female. The overall mean standard deviation score of QoL was 57.80±11.89. A total of 56.4% of respondents had a fair quality of life. Multiple linear regression analysis showed that physical exercise was associated with physical, psychological and social dimensions of quality of life. Education status was associated with physical dimension, chronic disease was associated with psychological dimension and past occupation was associated with environmental dimension. Age (p-value=0.032), marital status (p-value=0.047) and physical exercise were associated with overall fair quality of life. **Conclusions:** More than half of the elderly have a fair quality of life and nearly half have a poor quality of life. Age, marital status, educational status, and physical exercise are factors influencing their quality of life. Local activities and awareness should be encouraged to enhance the Quality of life of elderly people.

Keywords: Elderly people, own home, quality of life.

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Submitted: January 29, 2024

Accepted: May 10, 2024

To cite: Sharmila P, Dhungana S, Koirala S, Banstola S. Quality of life and its associated factors among the elderly population living in their own homes. JGMC Nepal. 2024;17(1): 40-6.

DOI: 10.3126/jgmcn.v17i1.62757

INTRODUCTION

The quality of life (QOL) of the elderly is becoming increasingly more important as the population ages and with the aging population. In order to assess the elderly's physical and social functioning, mental health, and overall well-being, as well as to assess different intervention programs health-related quality of life (HRQOL) has become increasingly used as a health outcome.[1] QOL is a complex concept that typically covers both objective and subjective domains and is related to how an individual perceives his or her place in the world in connection to the cultural context of that person's country as well as his or her expectations.[2,3] As interest in health promotion and QOL has grown, there has been a growing interest in understanding how to improve not only health outcomes but also quality of life in relation to one's health.[4]

The improvement of later life quality is one of the biggest concerns facing public health. The quality of life for the senior population is directly impacted by migration and changing family structures.[6] There were one billion people aged 60 and older in the world in 2019. By 2030 there will be 1.4 billion people on earth and by 2050, there will be 2.1 billion. In emerging countries in particular, this rise is happening at an unprecedented rate and will pick up speed in

the following decades.[7] By 2031, there will be around 3.5 million elderly people, while the average yearly growth rate is predicted to slow.[8]

As per the population census of 2021, approximately 6.05% of the population was over 65 years old in Nepal. Different studies in Southeast Asia have shown that older age, illiteracy, unemployment, presence of chronic disease, alcohol use, and sedentary lifestyle were the risk factors related to the low quality of life among the elderly.[9,10]

In Nepal, very few studies were carried out concerning the QOL. Past studies have focused on loneliness depression functional disability, self-reported health, sleep quality, elderly abuse, perceived quality of life, living arrangement and quality of life, physical and mental health status.[11] Past study on QOL for the elderly in Tarakeshwor Municipality of Kathmandu, Nepal reported that age, female sex, living alone, low education and economic status were significantly associated with the elderly's QOL.[12] It is unclear about the factors affecting the quality of life of the elderly mainly those residing in rural areas. So, this study has tried to fill this gap.

QOL and the associated factors may be different for the elderly residing in different parts of Nepal. The population of Nepal, like many other developing countries globally, is aging quickly. Urbanization, contemporary character, tendencies, and attitudes, as well as global integration, are to blame for the decline of social values, economic structure, societal values, and social structures like the joint family. The objective of this study was to assess the quality of life, including physical, psychological, social, and environmental dimensions among elderly individual living in their own homes. Additionally, the study aimed to identify the factor associated with variations in quality of life among this population.

METHODS

Study design, setting, and population: A cross-sectional community-based study was conducted among the elderly population of Syangja district. Data was collected from April 2023 to September 2023. The study population was the elderly population above the age of 60 years in Syangja district.

Sample size and sampling method: For the sample size calculation, the reference for the quality of life was considered from a paper in which the standard deviation of life was shown to be 11.16.[10] Considering this, the sample size is calculated to be 234 [n== 1.96*1.96*11.16*11.16/=234; where Z=1.96 at 95% CI, SD=11.16 and E=1.5 (margin error).

The data was collected using the multi-stage sampling method. In the first stage, one municipality was selected randomly from among the municipalities of Syangja district. In the second stage, two wards were selected randomly from among the selected municipalities. In the third stage, respondent of the household from the ward was selected based on population proportion. Finally, one eligible elderly participant from each selected household was randomly recruited.

Measurement of variables: QOL was assessed using the 26-item WHOQOL-BREF, which contains overall quality of life and general health (2 items), physical health (7 items), psychological health (6 items), and environment (8 items) domains. Each item was evaluated using a five–point Likert scale. The score for each domain was calculated by adding the average score values for Individual items should be consistent with the WHO Quality of life Assessment (WHOQOL-100). The values were converted to a score from 0 to 100 according to WHO guidelines. A score above the mean value was considered to be of fair quality of life and below 50 was considered to be of poor quality of life. Background characteristics included age, gender, education, occupation, marital status, family type, physical exercise, and presence of chronic disease. Age was categorized into two groups: 60 to 69 years and 70 years and above. The participants were divided into groups based on their marital status (married and other: unmarried/ separated/ widow), occupation (unemployment, agriculture and other: private/ public job/ business/ retired), educational status (illiterate and literate; primary, secondary, graduate and above) and family type (nuclear family and joint or extended family). Regarding comorbid conditions, the participants were divided into the presence of chronic disease (yes or no).

Data collection tools and technique: Data were collected through face-to-face interviews using pre-tested semi-structured questionnaires. Nepali version of WHOQOL-BREF quality of life questionnaire was used which consists of 26 items. Each item was evaluated using a five-point Likert scale.

Data analysis: The majority of questionnaire responses were pre-coded after data collection. The statistical package for social science (SPSS) software version 22.0 was used to enter the data as well as to conduct the statistical analysis. Both descriptive and summarizing statistics were computed. Frequency and percentage were computed for categorical data. For continuous data, the mean and standard deviation (SD) were determined. Quality of life was categorized as fair quality of life and poor quality of life. More than the mean value was considered as fair quality of life and less than the mean value was considered as poor quality of

life. Multi linear regression analysis was performed using the enter method to determine the association between the independent variables and physical, psychological, environmental, social dimension and overall QOL. To ensure that the necessary presumptions were true, statistical tests were run with a significance level of 0.05.

Ethical approval: Ethical clearance from the Institutional Review Committee (IRC) of Gandaki Medical College was obtained (Ref. No. 255/079/080). Before obtaining the informed consent, participants were informed about the nature and purpose of the study. Participants were also informed about the duration of the interview, the individual rights to withdraw from the study at any time, and the confidential handling of the survey information. Data was collected in the real field by obtaining informed consent from the participants. Participants were counseled and proper information of any necessary interventions was made during the interview.

RESULTS

The descriptive findings of the socio-demographic variables, lifestyle-related factors, health status-related information, and the 5-point Likert scale to measure the quality of life are organized in the following tables, which are further analyzed using inferential statistics for the bivariate and multivariate analyses.

As shown in Table 1, more than half (54.7%) were in the age group above 60 to 69 years. More than half (57.7%) of the respondents were female. Most of the respondents (70.9%) were married and living with their spouses. Half of the respondents (51.9%) were found to be illiterate. Approximately 36.8% of the respondents were engaged in agriculture. More than half (57.3%) of the respondents belonged to the nuclear family. Approximately 44% of the respondent's financial support was through the allowance.

Table 1: Background characteristics of respondents (N=234)

Variables	Frequency (%)
Age	
60-69 years	128(54.70%)
70 years and above	106 (45.30%)
Sex	
Male	99 (42.30%)
Female	135 (57.70%)
Marital Status	
Unmarried	2 (0.90%)
Married	166 (70.90%)
Separated	3 (1.30%)
Widow	63 (26.90%)
Educational Status	
Illiterate	120 (51.30%)
Informal Education	38 (16.20%)
Primary Education	42 (17.90%)
Secondary Education	29 (12.40%)
Graduate and above	5 (2.10%)
Past Occupational status	
Unemployment	23 (9.80%)
Housewife	81 (34.80%)
Business	13(5.60%)
Agriculture	86(36.80%)
Government Job	2(0.90%)
Private Job	1(0.40%)
Retired	28(12.00%)
Family type	
Nuclear	134(57.30%)
Joint	100(42.70%)
Financial Support	
Allowance	103(44%)
Pension	51(21.80%)
Money from Family	80(34.20%)

Figure 1 shows that more than half (56.4%) of the respondents have a fair quality of life and 43.6% of the respondents have a poor quality of life.

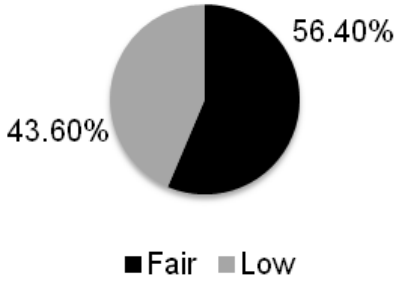

Figure 1: Overall Quality of life of elderly

Table 2 shows the mean scores and comparison of QOL according to domain. Among the four domains, social health domain (63.87±19.32) had the highest scores meaning that this domain was better than the other three domains: physical domain, psychological domain and environmental domain. The mean QOL score was (57.80±11.89).

Table 2: Mean values of the quality of life in each domain and overall quality of life

QOL Domain	Own Home (N=234) Mean±SD
Physical	55.35±12.82
Psychological	54.13±12.37
Social	63.87±19.32
Environmental	57.85±18.80
Overall Quality of life	57.80±11.89

Table 3 shows results referring to the different dimension of quality of life. Concerning physical dimension, educated elderly people have 2.23(1.11 to 4.48) times fair quality of life than those have not received education. Elderly people who do the physical exercise have 3.90(1.93 to 7.86) times fair quality of life than those who do not do physical exercise. Regarding psychological dimension, doing physical exercise and the presence of chronic disease were significantly associated with the quality of life. Concerning social relationship dimension, elderly people who were in the age group between 60 to 69 years have 2.81(1.48 to 5.32) times fair quality of life as well as the married elderly people have 4.76(2.25 to 10.06) times fair quality of life than those who were unmarried, separated or widow. Occupational status and doing physical exercise were significantly associated with the quality of life in

environmental dimension.

Table 3: Multivariate logistic Regression on dimensions for WHOQOL-BREF of elderly people (N=234)

Variable	AOR(CI)			
	Physical Health	Psychological Health	Social relationship	Environmental
Age (Ref: 70 or higher)				
60-69	1.79(0.94-3.406)	1.81(0.98-3.35)	2.81(1.48-5.32)*	0.78(0.42-1.43)
Sex (Ref: female)				
Male	1.11(0.55-2.21)	1.60(0.83-3.08)	0.68(0.33-1.41)	1.03(0.54-1.95)
Current marital status (Ref: Other)				
Married	1.25(0.59-2.63)	0.61(0.29-1.27)	4.76(2.25-10.06)*	1.61(0.79-3.25)
Education (Ref: No education)				
Primary or higher	2.23(1.11-4.48)*	1.16(0.60-2.24)	2.00(0.98-4.07)	0.75(0.39-1.45)
Past Occupational status (Ref: Unemployed)				
Agriculture and other	0.64(0.23-1.73)	0.65(0.26-1.67)	0.91(0.32-2.58)	0.38(0.15-0.97)*
Family Type (Ref: Joint)				
Nuclear	0.64(0.35-1.17)	1.77(0.99-3.17)	1.65(0.88-3.07)	1.01(0.57-1.79)
Physical exercise (Ref: No)				
Yes	3.90(1.93-7.86)*	2.33(1.24-4.37)*	0.76(0.40-1.46)	3.75(2.06-6.83)*
Presence of any chronic diseases (Ref: No)				
Yes	0.58(0.32-1.07)	0.35 (0.19-0.62)*	1.58(0.85-2.95)	0.73(0.41-1.29)

*Statistically significant at 95% level of confidence, p-value <0.05

Note: AOR: Adjusted Odd Ratio, CI: Confidence Interval

Table 4 shows the result based on the application of the multivariate logistic regression to the data. The results shows that the variables like – age, marital status, educational status and physical exercise have a significant independent influence on the overall quality of life. Even after adjusting for all the variables, age and physical exercise influenced on the overall quality of life. Elderly person who were in the age group between 60 to 69 years had 2.004 (AOR 2.004, 95% CI [1.063-3.777]) times the fair quality of life compared to those above 70 years. Similarly, male elderly persons had 1.819 times (AOR 1.819, 95% CI [0.903-3.661]) the fair quality of life compared to female elderly population. Married elderly persons had a fair quality of life 1.843 times (AOR 1.843, 95% CI [0.896-3.794]) than that of other elderly persons. Educated elderly persons have 1.208 times (AOR 1.208, 95% CI [0.617-2.366]) more fair quality of life than those who have not received any education. Elderly people who were engaged in agriculture and other occupations were 52.4% (AOR 0.554, 95% CI [0.210-1.460]) less likely to have a fair quality of life than those who were unemployed. Elderly persons from the nuclear families were 20% (AOR 0.800, 95% CI [0.440-1.454]) less likely to have fair quality of life than those from joint families. Elderly people who perform daily physical exercise have 4.98 times a fair quality of life (4.981, 95% CI [2.516-9.86]) than those who do not do any physical exercise.

Table 4: Multivariate logistic regression results on overall quality of life (N=234)

Variable	UOR (CI)	P-value	AOR (CI)	P-value
Age (Ref: 70 or higher)				
60-69	2.146(1.267-3.633)	0.005	2.004(1.063-3.777)	0.032
Sex (Ref: female				
Male	1.346(0.795-2.278)	0.268	1.819(0.903-3.661)	0.094
Current marital status (Ref: Other)				
Married	2.854(1.594-5.111)	<0.001	1.843(0.896-3.794)	0.047
Education (Ref: No education)				
Primary or higher	1.714(1.017-2.890)	0.042	1.208(0.617-2.366)	0.582
Past Occupational status (Ref: Unemployed)				
Agriculture and other	0.995(0.418-2.371)	0.991	0.554(0.210-1.460)	0.232
Family Type (Ref: Joint)				
Nuclear	0.893(0.529-1.507)	0.672	0.800(0.440-1.454)	0.464
Yes	0.789(0.384-1.622)	0.520	0.592(0.249-1.408)	0.236
Physical exercise (Ref: No)				
Yes	4.009(2.171-7.404)	<0.001	4.981(2.516-9.862)	<0.001
Presence of any chronic diseases (Ref: No)				
Yes	0.804(0.479-1.350)	0.410	0.735(0.404-1.337)	0.313

*Statistical significance at <0.05

Note: UOR: Unadjusted Odd Ratio, CI: Confidence Interval, AOR: Adjusted Odd Ratio

DISCUSSION

The total mean quality of life of elderly people living in their homes was 57±11.89. A total of 56.4% of the respondents had a fair quality of life. This result was similar to that of a study carried out in the Baglung district of Nepal which showed that half of the respondents (51.1%), similar to those in the southern central part of Nepal had a good quality of life.[14,15] This finding is in contrast to the findings that were carried out in the rural areas of Nepal which showed that 35.1% reported good quality of life[16] This result is also in contrast to the finding that was carried out in the Tarakeshwor municipality of Kathmandu which showed that 81.2% of the respondents had a fair quality of life.[12] This variation in quality of life according to residence may be due to in the most of the elderly people of urban were living with their family whereas in the rural area, most of the elderly people were living with their spouse only.

In comparison to four domains i.e. physical, psychological, environmental, and social domains, the mean score of the social domain (63.87±19.32) was the highest. This finding was similar to a study that showed the social domain had a higher mean score.[17] This finding was in contrary to other studies that showed that the social domain had a low

mean score.[18,19] This might be due to the living structure of the elderly population. Most of the elderly lived with their family. Educational status was significantly associated with the QOL in physical dimension which is similar to the finding of another study that was carried out in Nepal.[13] People with higher levels of education are more likely to engage in healthy behavior as compared to those who have not received education. In the current study, occupational status was significantly associated with environmental health which was also shown in the study conducted in India.[17] People who engaged in different occupations had a fairer quality of life than those who were unemployed.

Age was significantly associated with the quality of life which states that elderly persons who were in the age group between 60 to 69 years have 2.004 times fair quality of life compared to the age group of more than 70 years. This finding was supported by various studies conducted in different countries including Nepal.[15,20-22] The age group 60 to 69 years was more active in their daily life and engaged in different occupational sectors in this area as compared to the age group 70 years and above.

Sex was not significantly associated with quality of life but the male elderly population had 1.819 times a fair quality of life compared to the female elderly population. This finding was similar to the findings of different studies.[15,19] Education status was not significantly associated with quality of life. Similar findings were found in studies conducted in Thailand.[23] This might be because the participants belonged to rural areas which might not affect their qualification level.

Marital status was significantly associated with the quality of life. in line with our findings, various studies conducted in different countries including Iran, Mexico, India and Nepal also found the same.[15,24-26] The married elderly population has 1.843 times fair quality of life compared to those who were living single, widowed and separated. This can be because being married makes couples happy and more relaxed in their lives and it brings more energy. On the other hand, being lonely and being single with no relationship with one's spouse may bring more sadness and depression.

Past occupational status was not statistically associated with quality of life (p-value=0.232). This finding is similar to those of studies conducted in India.[19] It does not measure current occupational status. Past occupation does not influence the quality of life. There may be other factors such as the source of economic support that might be applied in the present context.

Physical exercise was significantly associated with quality of life. Elderly people who engaged in physical exercise have a 4.98 times higher quality of life than those who did not engage in physical exercise. Similar findings were found in studies carried out in Brazil as well as Nepal.[15,27] Elderly people who perform physical exercise have good functional mobility. There will be the lower chance of the presence of chronic disease. They can perform their regular daily activities easily and remain active.

This study has some limitations. First, because certain question required in-depth recollections of prior events, there was a chance that recall bias existed in the participants reported replies. Second, because the study was limited to two wards of Syangja district, the conclusions cannot be applied to the entire older population in Nepal but may be applicable to that district only.

CONCLUSIONS

This study found that more than half of elderly people have a fair QOL and nearly half have low QOL. This study shows that age, marital status, educational status, and physical exercise are factors influencing quality of life. The social relation domain was very high among the domains. The results imply that health policymakers should consider an urgent health interventional program among elderly people at the present stage of demographic transition with an emphasis on high-risk demographic processes.

ACKNOWLEDGEMENT

The authors are grateful for the participation of all the elderly persons in the study of the Syangja district.

CONFLICTS OF INTEREST: None declared

SOURCE OF FUNDING: None

AUTHORS' CONTRIBUTION

SP contributed to conceptualization, design, literature search, data collection, data analysis and manuscript editing. SD contributed conceptualization, literature search, data analysis, manuscript editing and review. SK contributed in manuscript editing and review. SB contributed in literature search and manuscript preparation. Final editing and confirmation have been given by all authors.

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