

Socio-demographic variables related to self-esteem, psychological stress and health-related quality of life among older adults: A cross-sectional study in Kavrepalanchowk district of Nepal

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Abstract

Objective: The study aimed to assess how socio-demographic variables related to self-esteem, psychological stress and health-related quality of life among older adults in Nepal.

Method: A cross-sectional community-based study was conducted in the Kavrepalanchowk district of Nepal. A two-stage cluster sampling technique was used for selecting the study areas, and 239 older adult participants were selected randomly from the clusters. The interview technique was applied to gather data using validated tools. The tools used in the study were Rosenberg self-esteem scale, Perceived Stress Scale and WHOQOL-BREF scale. Scoring was carried out for self-esteem, perceived stress and WHOQOL-BREF in accordance with the procedures. Data were analyzed using descriptive statistics and inferential statistics (Chi-square, independent *t*-test and one-way analysis of variance).

Results: Among the total participants, 27.2% were 60–64 years old and more than two-thirds (69.9%) were male. The majority of participants were married (65.5%) and cannot read and write (60.7%). Half of the older adults (49.8%) were living with their partners. Self-esteem was high among the age group 70–74 years (24.80 ± 3.01), and psychological stress was high among the age group 60–64 years (17.23 ± 2.93) within the older adults. Furthermore, the mean score for the social relationship domain and physical health domain of health-related quality of life were 12.0 and 11.9, respectively. Comparing the domains of physical health, psychological health and social relationship with age and education level were statistically significant.

Conclusion: Self-esteem was lower among older male adults aged 60–64 years and those who attended secondary level education. An increase in participants' age increases the psychological stress and decreases the psychological domain of health-related quality of life.

Keywords

Self-esteem, older adults, psychological stress, health-related quality of life

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Introduction

Globally, the aging population is rapidly increasing, and the health sector has the challenge of promoting health, increasing well-being and maintaining the highest quality of life (QOL) for this portion of the population.^{1–3} Most of the older people were fully dependent on their offspring for livelihood and they expect care from them. At present, older adults are left alone at home without proper respect, care and love. This situation has impacted their well-being and QOL.⁴ Wilson and Cleary provided a model to measure the health-related quality of life (HRQOL), including different variables related to

biomedical and social characteristics.⁵ The World Health Organization (WHO) conceptualized and developed the instruments (WHOQOL-BREF scale) for capturing

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the individual's perceptions and the subjective aspects of health-related domains and the overall QOL.^{6–8} The WHOQOL-BREF scale measures the relationship between physical health, personal beliefs, psychological state, social and environmental factors.^{7,9} It is significantly relevant to understand the HRQOL and self-perception of health status.^{10,11} However, the researchers could not relate the observations to physical fitness.¹² A study conducted in the Kailali district of Nepal showed only one-third of older adults were reported having a good QOL.¹³ Mostly, it was due to the deterioration of physical health that also increases stress and decreased social engagement.¹⁴ The older adults having higher literacy, health-promoting behavior, self-efficiency and social support had a positive impact on HRQOL,¹⁵ and loneliness, age, chronic diseases and education level were also related to HRQOL.¹⁶ There is an inadequate HRQOL assessment among the older adults, but few studies showed the low HRQOL among older adults.^{17,18}

Psychological stress can occur due to a combination of social, intellectual, physical and emotional needs not being met.¹⁹ A study among the older adults in Jahrom city, Iran observed that there is a relationship between social support and stress.²⁰ The older adults who suffered from psychological stress had lower QOL.²¹ Stress is also linked with age, education, income and financial dependence.²¹ It is essential to promote the social and emotional health of the individual to enhance an individual's positive self-esteem.^{22,23} A study showed older adults with high self-esteem have low psychological problems²⁴ and good QOL.²⁵ The aim of the study was to assess the socio-demographics related to self-esteem, psychological stress and HRQOL among older adults in Nepal. The self-esteem, psychological stress and the HRQOL of older adults are not prioritized in the Nepali research agenda. This study is helpful to understand the overall QOL of older adults, and their self-esteem and psychological stress in a community setting. The research also explored the self-esteem and psychological stress among the general older adult population that previous Nepalese researches had not explored. This will also direct further research on the cost of self-esteem, socio-economic and cultural aspects of health, equity and quality improvement with the foundation of this research.

Method

Setting and study design

A community-based cross-sectional study design was applied to carry out the study among older adults. The study was carried out at the Mandan-Deupur Municipality of Kavrepalanchowk district of Nepal in 2019. It is situated 55 km northeast of the Kathmandu Valley.

Sampling and sample size

The sample size of the study was calculated using the cross-sectional formula for infinite populations. The proportion in the

formula was taken from a study about self-esteem and depression where 83% had middle-level self-esteem.²⁶ So, considering the proportion with 95% confidence interval and 5% margin of error and design effect (1), the sample size was 239.

A two-stage cluster sampling technique was applied for selecting the sites, and a random sampling technique was applied for the participants' selection. At the first stage, the previous administrative units "Village Development Committees (VDCs)" were chosen. The selected municipality was restructured with the merging of seven previous VDCs after the 2015 Federal System in Nepal. From seven VDCs, three previous VDCs were chosen as a cluster randomly. In the second stage, a total of 15 wards were selected as sub-cluster by the lottery method from all wards (27 wards) within three VDCs. A total of 1132 older adults were the residents of the three selected VDCs. Then, the list of the older adults (902) meeting the inclusion criteria was prepared within all clusters. The older adults were selected proportionately in all clusters, and within clusters, they were selected randomly using random numbers. The inclusion criteria for the study were the older adults who were 60 years of age and above, had no severe disease and able to respond. All participants who were selected had completed the study (zero refusals).

Measures

The structured tool contains the questionnaires related to socio-economic characteristics, self-esteem, psychological stress and HRQOL.

Socio-demographic variables. The socio-demographic variables included in the study were age, sex, education level, occupation, marital status, monthly family income, source of income, ethnicity and religion. The age of the respondents was categorized into 60–64, 65–69, 70–74, and 75 years and more as used in similar research.²⁷ Information about the age and monthly family income was collected using open-ended and other socio-demographic variables using closed-ended questionnaires.

Self-esteem measurement. For measuring the self-esteem of the older adults, Rosenberg self-esteem scale was applied where it includes 10 statements that deal with general feelings the individual has about themselves.²⁸ The 10-statement, 4-point Likert-type scale tool (*strongly agree* to *strongly disagree*) measures self-esteem from an individual's feelings. All the 10-item scores were summed up and measured mean for Rosenberg self-esteem scale. A higher score was considered "high" and a lower score was considered "low" self-esteem. The Rosenberg self-esteem scale was used in similar cultural context,²⁹ and Cronbach's alpha was 0.82 in this study.

Psychological stress measurement. For psychological stress, the Perceived Stress Scale (PSS) was used. This measure

includes 10 questions to ask about individual feelings and thoughts relating to stress and coping during the last month.³⁰ The items are designed to assess the individual's life with direct queries on the stress experience. The tool is understandable and usable to any population sub-groups. The PSS was analyzed by summing up all 10 items. A higher score was considered "high" and a lower score was considered "low" psychological stress. The PSS was also used in similar cultural context,³¹ and the Cronbach's alpha was 0.76 in this study.

HRQOL. For the HRQOL, the WHOQOL-BREF scale was used. This scale includes four domains, physical health, psychological, social relationships and the environment, with 26 questions about QOL, health or other areas of life.³² Within these four domains, physical health addresses daily living activities, dependence on medical treatment, fatigue, sleep discomfort, mobility and workability. The psychological domain includes feelings, spirituality, bodily image, thinking, concentration, beliefs and memory. The social relationships domain includes social support, personal relationships and sexual activity, and the environment domain explains health and social care, financial resources, recreation, physical environment, freedom and physical safety. The 26 items WHOQOL-BREF scale was analyzed computing all domain scores. The WHOQOL-BREF scale was already translated into the Nepali language and used in Nepal.³³ The tools were pretested prior to administration, and the Cronbach's alpha for WHOQOL-BREF scale was 0.71.

The required permissions were obtained for the tools and translated Rosenberg self-esteem scale and PSS into Nepali language. The research team had back-translated the tools in Nepali and English languages with further review from an independent expert.

After the ethical approval from the Ethical Review Board of Nepal Health Research Council (690/2018), the data were collected through a face-to-face interview technique with the pretested and valid structured tools. The researcher had collected data only after explaining the purpose of the study and obtaining the participants' written consent. The interviews lasted up to 1 h with a range of 35–60 min per participant.

Statistical analysis

The collected data were entered, coded and evaluated for errors in Epi data. Clean data were transferred to SPSS IBM version 24 software and analyzed. Frequency and percentage were used to analyze the demographic variables. Mean and standard deviation were used to present the findings.

The correlation between socio-demographic variables and HRQOL was measured. The mean comparisons were carried out for the self-esteem and psychological stress with socio-demographic variables (age, sex, education level, occupation and source of income), and ANOVA, and independent *t*-tests were applied to find out the association of

HRQOL of older adults with socio-demographic variables (age, sex, income, education level, marital status, ethnicity and religion).

Results

Association between socio-demographic variables, self-esteem and psychological stress

Among the total participants responded (239, 100%), more than half (69.9%) among the total older adults were male and the remaining 30.1% were female. Among them, 27.2% were aged 60–64 years, 25.9% were of 65–69 years, 25.5% were 70–74 years and 21.4% were older than 75 years. In addition, it was found that the majority of the participants (60.7%) cannot read and write, 30.1% can read and write, 3.3% had attained primary education and 5.9% had completed secondary education level (Table 1).

Similarly, the age group 70–74 years had higher self-esteem (24.80 ± 3.01), whereas low self-esteem among age groups of 60–64 years and 75 years and above. The female respondents had higher self-esteem (24.67 ± 3.48) than male respondents. The psychological stress was high among the age group of 60–64 years (17.23 ± 2.93) and low among 70–74 years age groups (15.06 ± 2.71). Male respondents (16.23 ± 2.83) had higher psychological stress than female respondents (15.34 ± 2.31). Older adults who had agriculture (16.13 ± 2.77) and business (16.06 ± 2.95) occupations had more stress than others. Participants receiving the senior citizen allowance (15.23 ± 2.77) had an average level of stress (Table 2).

Correlation between socio-demographic variables, self-esteem, psychological stress and HRQOL

The findings showed that there is a relationship between self-esteem and psychological stress, and the psychological domain of the QOL. The self-esteem was negatively related to the psychological stress ($r = -0.411$, $p < 0.001$), and psychological domain of the QOL ($r = -0.214$, $p < 0.001$), and positive correlation with ethnicity ($r = 0.138$, $p < 0.05$). Physical domain has a positive relationship with psychological domain ($r = 0.472$, $p < 0.001$), social relation domain ($r = 0.416$, $p < 0.001$), environmental domain of QOL ($r = 0.208$, $p < 0.001$) and sex ($r = 0.131$, $p < 0.05$), whereas negatively associated with age ($r = -0.389$, $p < 0.001$) and marital status ($r = -0.288$, $p < 0.001$). Similarly, psychological domain and social relation domain are negatively correlated with age ($r = -0.271$, $p < 0.001$; $r = -0.235$, $p < 0.001$), marital status ($r = -0.276$, $p < 0.001$; $r = -0.325$, $p < 0.001$) and ethnicity ($r = -0.242$, $p < 0.001$; $r < -0.136$, $p < 0.05$) and positively associated with monthly family income ($r = 0.186$, $p < 0.001$; $r = 0.199$, $p < 0.001$), respectively. The environmental domain is positively associated with

Table 1. Socio-demographic variables.

Variables	Groups	n (%)
Age (years)	60–64	65 (27.2)
	65–69	62 (25.9)
	70–74	61 (25.5)
	≥75	51 (21.4)
	Median = 68 (60–95) years	
Sex	Male	167 (69.9)
	Female	72 (30.1)
Education level	Cannot read and write	145 (60.7)
	Literate	72 (30.1)
	Primary level	8 (3.3)
	Secondary level	14 (5.9)
Monthly family income	Low income	217 (90.8)
	Middle income	19 (7.9)
	High income	3 (1.3)
	Median = 5000 (1000–50,000) NPR	
Marital status	Married	166 (69.5)
	Unmarried	4 (1.7)
	Divorced	2 (0.8)
	Single	67 (28.0)
Ethnicity	Brahmin	93 (38.9)
	Chhetri	41 (17.2)
	Indigenous	62 (25.9)
	Dalit	43 (18.0)
Religion	Hindu	170 (71.1)
	Christian	42 (17.6)
	Buddhist	27 (11.3)

Table 2. Self-esteem and psychological stress among older adults with socio-demographic variables.

Variables	Groups	Self-esteem (M ± SD)	Psychological stress (M ± SD)
Age (years)	60–64	23.43 ± 3.42	17.23 ± 2.93
	65–69	24.22 ± 2.91	16.00 ± 2.41
	70–74	24.80 ± 3.01	15.06 ± 2.71
	≥75	24.11 ± 3.13	15.41 ± 2.85
Sex	Male	23.90 ± 2.98	16.23 ± 2.83
	Female	24.67 ± 3.48	15.34 ± 2.31
Education level	Cannot read and write	24.51 ± 3.05	15.56 ± 2.83
	Literate	23.88 ± 3.09	16.31 ± 2.75
	Primary level	23.37 ± 3.06	17.25 ± 2.87
	Secondary level	21.85 ± 3.63	17.79 ± 2.61
Occupation	Agriculture	23.88 ± 3.11	16.13 ± 2.77
	Business	24.75 ± 2.86	16.06 ± 2.95
	Service	23.92 ± 3.39	15.76 ± 2.72
	Labor	24.74 ± 3.24	15.72 ± 2.66
	Foreign employment	24.49 ± 2.99	15.95 ± 2.67
Source of income	Senior citizen allowance	24.54 ± 3.05	15.23 ± 2.77
	House rent	24.00 ± 2.74	15.40 ± 2.07

psychological stress ($r=0.139$, $p < 0.05$), physical domain ($r=0.208$, $p < 0.001$), psychological domain ($r=0.546$, $p < 0.001$), social relation domain ($r=0.508$, $p < 0.001$),

monthly income ($r=0.401$, $p < 0.001$) and negatively associated with religion ($r=-0.160$, $p < 0.05$) and ethnicity ($r=-0.197$, $p < 0.001$) (Table 3).

Association between socio-demographic variables and HRQOL

The association between age ($p < 0.001$), gender ($p = 0.043$), marital status ($p < 0.001$), respondent education level ($p = 0.004$) and domain of physical health was statistically significant. While comparing the obtained scores in psychological stress and age ($p < 0.001$), income ($p = 0.044$), marital status ($p < 0.001$), education ($p < 0.001$), ethnicity ($p < 0.001$) and religion ($p = 0.003$) were found to be statistically significant. Comparing the score obtained in the social relationship domain and socio-demographic variables, the association between age ($p = 0.004$), monthly income ($p = 0.022$), marital status ($p < 0.001$), respondent education level ($p < 0.001$) and ethnicity ($p = 0.011$) was found statistically significant. The associations between environmental domain and religion ($p = 0.001$), ethnicity ($p < 0.001$), education level ($p = 0.001$) and monthly income ($p = 0.002$) were found statistically significant (Table 4).

Discussion

The study was designed to measure the psychological stress, self-esteem and HRQOL of older adults. This study conducted among the population age group of more than 60 years of age of the semi-urban community showed high self-esteem among older adults of 70–74 years of age and those who could not read and write. The study showed high self-esteem among uneducated older adults which might be due to low social status and less expectation. It should be researched in similar populations and settings. Although the evidence on self-esteem among older adults from Nepal is lacking, a previous study on self-esteem among older adults visiting the health care centers in Kermanshah-Tran found a high level (66.2%) of self-esteem among older adults. A meta-analysis showed that the average self-esteem was high at the age of 60–70 years and declined above 70 years.³⁴ It could be due to social status, losses of near ones and physical problems.³⁵ Similarly, the association between self-esteem and income, marital status and education was found to be statistically significant.³⁶ This study showed males had lower self-esteem, and it may be due to less social participation, physical problems and retirement from regular work.²⁵

A study of US Chinese older adults showed that 74% of participants had experienced various levels of everyday life stress. In addition, participants of older age, female, lower education, lower income level and poor QOL were more likely to have a higher level of perceived stress.³⁷ Data from this study revealed that psychological stress was found more in males than in females, older adults aged 60–64 years and those whose occupation was agriculture. A pilot study conducted in three regions of Nepal showed higher mental disorders among males and older adults aged 65 years and above.³⁸ Loneliness and physical illness might increase psychological stress and mental disorders.^{36,39} Family and social

support could be the factors for differences in stress level that needs to be further studied. In the Nepalese context, most of the time males participate in social activities and have access to financial resources.⁴⁰

A study among older adults in rural settings of Kerala, India found that the mean score of physical health (42.44) was the maximum score among QOL domains, followed by social relationship (42.16) and psychological domain (26.95). The association between occupations of respondents, older adults of 60–69 years age group and higher income was found to be statistically significant.⁴¹ This study depicts that in the social relationship domain, the mean score was maximum (11.98) followed by the physical health domain (11.92). Comparing the domains of physical health, psychological health and social relationship between ages ($p < 0.001$) were statistically significant. Psychological health and religion ($p < 0.03$) and environment and religion ($p < 0.02$) were also found to be statistically significant.

In this study, the mean QOL score was 70.31 ± 11.94 . As compared to females, males were found to have better social relations. Better physical domain score was found among older adults of < 70 years of age as compared to older adults of ≥ 70 years of age. Similar to this study, a study conducted among geriatric populations in rural areas of Dakshina Kannada and Karnataka, India indicated that the mean QOL score was 62.1 ± 1.64 . As compared to females, males were found to have a good social relationship. It showed that as compared to older adults of ≥ 70 years of age, the older adults of < 70 years of age had better scores of the physical domain.⁴²

The study conducted in the geriatric population showed that the total mean score for both males and females and for those who can and cannot read and write was similar. In addition, the mean score in all four domains of QOL was found to be similar.⁴³ In this study, there were differences in mean QOL scores of both males and females, and cannot read and write, and literate. Gender differences in QOL may be due to household responsibilities, socio-cultural norms, access to health care facilities and income.⁴⁴ The association between respondent's education level was found statistically significant for all four domains, whereas gender was found statistically significant to only the physical domain.

A study on QOL and self-esteem among the older adults in the community indicated that the highest mean score (71.19) was in the social relation domain, whereas the environment domain (60.39) had the lowest mean score.²⁵ This study showed that the mean score was highest (11.98) in social relations followed by the physical health domain (11.92). Further research can be carried out for the validation of the Nepali translated tools of Rosenberg self-esteem scale and PSS.

Limitations

The study might be subjected to recall bias due to the questions depending on subjective memory and the social

Table 3. Correlation matrix between socio-demographic variables and self-esteem, psychological stress and QOL.

	Self-esteem	Psychological stress	Psychological domain of QOL	Physical domain of QOL	Psychological domain of QOL	Social relation domain of QOL	Environmental domain of QOL	Age	Sex	Marital status	Monthly family income	Religion	Ethnicity
Self-esteem	1												
Psychological stress	-0.411**	1											
Physical domain of QOL	0.059	0.043	1										
Psychological domain of QOL	-0.214**	0.223**	0.472**	1									
Social relation domain of QOL	0.040	0.116	0.416**	0.531**	1								
Environmental domain of QOL	-0.063	0.139*	0.208**	0.546**	0.508**	1							
Age	0.056	-0.203**	-0.271**	-0.235**	0.091	-0.115	1						
Sex	0.111	-0.144*	0.131*	-0.135*	0.149*	-0.115	-0.135*	1					
Marital status	0.089	-0.120	-0.288**	-0.276**	0.199**	0.156*	0.149*	0.149*	1				
Monthly family income	0.006	-0.066	0.186**	0.186**	0.156*	-0.023	0.225**	0.156*	0.156*	1			
Religion	0.084	-0.028	-0.205**	-0.162*	-0.023	-0.162*	-0.050	-0.026	-0.026	-0.162*	1		
Ethnicity	0.138*	-0.002	-0.242**	-0.136*	-0.197**	-0.136*	-0.192**	0.003	0.003	-0.199**	0.566**	1	

* $p < 0.05$ level, ** $p < 0.01$ level.

Table 4. Comparison of WHOQOL-BREF domain score with socio-demographic factors.

Variables	Groups	QOL domains			
		Physical	Psychological	Social relation	Environment
Age (years)	60–64	13.04	12.56	12.99	10.89
	65–69	12.23	11.82	12.24	10.20
	70–74	11.36	10.83	11.42	10.46
	≥75	10.78	10.54	11.03	11.07
<i>p</i> -value ^a		<0.001*	<0.001*	0.004*	0.251
Sex	Male	11.74	11.58	12.18	10.84
	Female	12.32	11.29	11.50	10.19
<i>p</i> -value ^b		0.043*	0.43	0.12	0.075
Monthly family income	Low income	11.87	11.36	11.80	10.33
	Middle income	12.33	12.84	13.68	13.50
	High income	12.95	12.88	14.22	15.00
<i>p</i> -value ^a		0.43	0.044*	0.022*	0.001*
Marital status	Married	12.31	12.02	12.67	10.71
	Unmarried	11.00	8.66	10.00	8.62
	Divorced	11.71	10.00	13.33	11.75
	Single	11.01	10.41	10.33	10.57
<i>p</i> -value ^a		<0.001*	<0.001*	<0.001*	0.395
Education level	Cannot read and write	11.82	10.80	11.11	9.96
	Literate	12.17	12.23	13.40	11.43
	Primary level	9.78	12.33	12.66	12.12
	Secondary level	12.85	14.52	13.23	12.85
<i>p</i> -value ^a		0.004*	<0.001*	<0.001*	<0.001*
Ethnicity	Brahmin	11.83	12.08	12.12	10.90
	Chhetri	12.49	12.08	12.76	11.40
	Indigenous	11.47	10.93	12.19	10.70
	Dalit	12.19	10.49	10.60	9.27
<i>p</i> -value ^a		0.066	<0.001*	0.011*	0.001*
Religion	Hindu	11.94	11.86	12.26	10.99
	Christian	12.08	10.65	10.98	9.45
	Buddhist	11.49	10.51	11.72	10.33
<i>p</i> -value ^a		0.475	0.003*	0.060	0.002*

^aANOVA.^bt-test.**p* < 0.05.

desirability bias. The cluster sampling technique applied for the study might cause sampling bias. In addition, the older adults with severe disease were excluded which might skew HRQOL results. However, the study team upheld standard procedures of the measures to reduce bias. The findings might have been limited generalizability to the developed countries. Similarly, the association between self-esteem and stress was found but the causality could not be established through this cross-sectional study.

Conclusion

In this study, self-esteem was lower among male older adults aged 60–64 years and those who attended secondary level education. Among respondents, male older adults had lower self-esteem than females. Data revealed that the level of stress, including low and moderate stress, was found to be

more in males than in females. The study presented the psychological stress, self-esteem and QOL among older adults of the semi-urban area of Nepal. It will also guide to study further on these issues which are limited in the context of Nepal. This study will guide further research and interventions related to these understudied domains in this understudied population in Nepal.

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Author contributions

K.K. and A.S. conceived and designed the study, contributed in data management and data analysis and interpretation; K.K., A.S., S.J. and D.R.S. drafted the article, participated in the critical

revision of the article for important intellectual content and approved the final version of the article.

Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

Ethical approval

The research was conducted after the ethical approval of Nepal Health Research Council (690/2018) and obtaining the written consent from the participants.

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Informed consent

Written informed consent was obtained from all subjects before the study.

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Data availability

The data were collected among the older adults on psychological stress, self-esteem and health-related quality of life; the raw data will be provided by the corresponding author on request.

Supplemental material

Supplemental material for this article is available online.

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