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Quality of Life and its Associated Factors among Home-Dwelling Older People

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Abstract

Background: Quality of life (QoL) among older persons provides valuable insights into the potential modifiable risk factors that affect well-being in later life. The study aims: To explore the factors affecting overall and domain-specific (physical health, psychological health, social relationships, and environmental) quality of life (QOL) of home-dwelling older residents in KSA. Methods: A community-based cross-sectional study was carried out from January to July 2022. A representative sample (n=723) of older adults aged >65 years was obtained by the multistage cluster sampling technique. QOL was assessed using the validated Sinhala version of the WHOQOL BREF Questionnaire. Data analysis was done using SPSS V.28. Results: The mean ± SD age was 72.23±6.3 years with the overall QOL score being (mean ± SD) 56.73±12.57/100. The mean ± SD QOL scores of physical health, psychological health, social relationships, and environmental domains were 55.81±15.80, 59.25±14.68, 46.36±20.08 and 64.61±11.96, respectively. The overall QOL in the adjusted model showed a significant positive association with educational status, living conditions (with a spouse, with spouse and children), participation in religious activities, being visited by friends or relatives, and financial independence. The overall QOL was negatively associated with limitations in activities of daily living and instrumental activities of daily living, chronic arthritis, and heart disease in the adjusted model. Living with the spouse was positively associated with the psychological domain of QOL. Osteoporosis and chronic arthritis affected the physical health domain, while cancer and disabling stroke affected the psychological domain of QOL negatively. All statistical significances were considered at $p<0.05$. Conclusion: The overall QOL of home-dwelling elders of the Colombo District is moderate, with the lowest score being in social relationships and the highest in the environmental domain. Educational status, engaging in religious activities, and financial independence are key factors associated with a better QOL. Limitations in physical activity and chronic diseases are associated with a reduced QOL. Living with the spouse is a key factor associated with the psychological health domain.

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Key words: *Quality of life, Associated factors, Home-dwelling, Older people.*

Introduction

A recent global report on aging mentioned that many people could live into their 60s and beyond with the rapid increase in life expectancy among older persons. The World Health Organization has estimated this demographic shift to contribute to an increase in the world's proportion of the older person population from 12% to 22% between 2015 and 2050, which is further forecasted to outnumber the childhood population by 2020. Moreover, people over age 60 numbered around 600 million worldwide in 2000, and these figures are expected to reach 1.2 billion by 2025 and 2 billion by 2050. Of these, about two-thirds currently live in the developing world, and it is estimated that this figure will rise to 75% by 2025 (2).

Quality of life (QOL) is defined as an individual's perception of her/his position in life in the context of the culture and value system they live in, to their goals, expectations, standards, and concerns (3). QOL addressed in this study includes the overall QOL and its four specific domains of physical health, psychological, social relationships, and environmental. Determining the specific factors that impact the QOL of older people is essential for the implementation of appropriate corrective strategies. The QOL of older people is affected by multiple factors (4). Sociodemographic (5-8), environmental (9), psychological (10) and social factors (11) have a significant impact on their QOL. Older people are commonly affected by chronic diseases (8, 9), which makes them more vulnerable to an irreversible decline in functional abilities (12), in parallel with their QOL.

Identifying such factors would enable instituting appropriate interventions (9). Preserving the QOL of older people worldwide is a major public health challenge of the 21st century. Given the differing sociocultural dynamics that determine the QOL, a detailed exploration by healthcare workers of the population-specific factors that impact the QOL of elders is crucial for policymakers and planners to institute the most appropriate and effective interventions. Since community-dwelling older people in KSA commonly rely on informal family caregivers, as opposed to paid formal care (12). Therefore, this study explored the factors affecting the overall and domain-specific (physical health, psychological health, social relationships, and environmental) quality of life (QOL) of home-dwelling older residents in KSA.

Methods

A community-based cross-sectional study was carried out from January to July 2022. The study population was persons over 65 years of age residing in their own homes having lived in the current location for a continuous period of not less than 6 months. A representative sample of 787 persons was selected using a multistage cluster sampling technique. The sample size was calculated to determine the overall and domain-specific QOL scores among older people, with a precision of 0.05, alpha of 5%, the proportion of those with good QOL taken as 64 (13), and the design effect as 2.

The cluster size was taken as 20 (14), to reduce the homogeneity of the cluster. Within a cluster, houses were selected randomly from the registered list of dwellings. Within a household, one older person was selected from all older people who fulfilled the inclusion criteria. Ethical clearance was granted by the Ethics Review Committee of the University. The study instrument was an interviewer-administered questionnaire consisting of questions on sociodemographic and health-related characteristics, QOL, activities of daily living (ADL), and instrumental activities of daily living (IADL). The data collection was carried out by the first author.

The research questions, study design, and outcome measures were developed with the engagement of health and non-health personnel working in the public sector. Overall and domain-specific QOL scores were measured using the validated Sinhala version of WHOQOL-BREF, which has shown good reliability (Cronbach's alpha 0.75) in previous studies (15). The tool consisted of 24 questions covering physical health, psychological, social relationships, and environmental domains and two questions to assess the overall QOL and health status. The questions were rated on a 5-point Likert scale with an overall score ranging from 0 to 100, and a higher score indicating a better QOL (16).

Limitations in ADL were assessed using the validated Sinhala version of the 10 items Barthel Index of ADL (17). The Barthel Index (18) is used to detect problems in performing basic activities of daily living such as feeding, bathing, grooming, dressing, bowel and bladder control and toilet use, transfers (from bed to chair and back), mobility on level surfaces and climbing stairs. Limitations in IADL such as shopping, preparation or cooking meals, using the telephone, washing clothes, housekeeping, transportation, taking medication, and managing finances were assessed using the validated Sinhala version of the Lawton IADL scale (19). In this study, older people with at least one limitation in ADL or IADL were considered activity-limited.

The other variables were age, gender, educational status, civil status, living conditions, visits by friends or relatives, attending religious activities, financial independence, and comorbidities. The data were analyzed by the Statistical SPSS V.28. Descriptive statistics were used for analyzing the data on socio-demographics, morbidity, and limitations in activity. The QOL was described using mean and median values. Normality assessed by visual inspection of histograms, Q-Q plots, box plots, skewness, and kurtosis indicated that the overall QOL and domain-specific QOL scores were normally distributed. Linear regression analysis was conducted to determine the factors associated with the overall and domain-specific QOL. The statistically significant variables ($p<0.05$) in the simple linear regression analysis were included in the multiple linear regression model.

Results

Table (1) shows the sociodemographic characteristics of the participants. The mean age of the sample was 72.2 years (SD±6.3 years). Nearly 60% of the sample were males and 70% were in the 65-74-year age group. More than half of the sample (59.1%) lived with their spouse and children, while only 4% lived alone. Seventy-five percent of the sample reported that they were regularly visited by friends or relatives and 88.7% had participated at least once in religious activities outside their homes within the previous 6 months. Only 41.1% of the sample was financially independent.

Table (2) shows the activity limitation and the prevalence of disease conditions. At least one limitation in ADL and one limitation in IADL were reported by 16.9% and 39.4%, respectively. More than 70% have at least one or more chronic diseases, the most common being hypertension (43.6%), followed by diabetes mellitus (32.1%), heart disease (22%) and chronic arthritis (21.9%). Around 25% perceived their health as very good or good.

Table (3) shows the mean and median scores of physical health, psychological, social relationships, and environmental domains. The mean ± SD score of the overall QOL was 56.73±12.57. The mean score for the social relationship domain was comparatively lower than others. The highest score was in the environmental domain which addresses financial resources, freedom, physical safety and security, health, and social care: accessibility and quality, home environment, opportunities for acquiring new information and skills, participation in and opportunities for recreation/leisure activities, the physical environment such as pollution, noise, traffic, climate, and transport.

Simple linear regression and multiple linear regression models were used to identify the association of sociodemographic factors, morbidity status, and the presence of limitations

in activities on the overall and domain-specific QOL of older people. The overall and domain-specific QOL scores were considered dependent variables. The beta coefficients (β), CI, and p values of simple linear regression (unadjusted) and multiple linear regression (adjusted) models of the overall QOL score are shown in Table 4 and the variables with significant associations with domain-specific QOL scores are shown in Table 5.

Table (4) shows that males, with higher educational levels, living with their spouse (with or without children), being visited regularly by friends or relatives, attending religious activities, and having financial independence were positively associated with overall QOL and those with, limitations in ADL and IADL, chronic arthritis and heart disease remained negative significant associates with overall QOL after adjusting for confounders in the multiple linear regression analysis.

Table (5) shows that having received tertiary education, attending religious activities during the past 6 months, and having financial independence showed a significant positive association with higher QOL in all four domains. Living with a spouse had a significant positive association with the psychological and social relationships domains, whereas regular visits by friends and family showed a significant positive association in the social relationships and environmental domains after adjusting for confounders.

The presence of ADL and IADL limitations has a significant negative relationship with all domain-specific QOL, sparing IADL in the social relationship domain and ADL in the environmental domain. Many diseases were negatively associated with QOL in the psychological domain, without a significant impact on the social relationships domain. The impact of specific diseases showed that cancer and disabling stroke had a greater negative effect in the psychological domain of QOL, whereas osteoporosis had a greater negative effect on the physical health domain. Chronic arthritis harmed the physical health, psychological, and environmental domains of QOL.

Table (1): Sociodemographic characteristics of the home-dwelling older people (N=723)

Characteristics	Number (n) percentage (%)	Number of males (%)	Number of females (%)
Gender	723	432 (59.8)	291 (40.2)
Age			
65–74 years	506 (70.0)	297 (58.7)	209 (41.3)
75–84 years	173 (23.9)	107 (61.8)	66 (38.2)
>85 years	44 (6.1)	28 (63.6)	16 (36.4)
Educational status			
No formal education	92 (12.7)	76 (82.6)	16 (17.4)
Primary	348 (48.1)	199 (58.2)	143 (41.8)
Secondary	242 (33.5)	133 (55)	109 (45)
Tertiary	41 (5.7)	20 (48.8)	21 (51.2)
Civil status			
Unmarried	26 (3.6)	16 (61.5)	10 (38.5)
Married	520 (71.9)	295 (56.7)	225 (43.3)
Divorced	6 (0.8)	5 (83.3)	1 (16.7)
Widowed	171 (23.7)	116 (67.8)	55 (32.2)
Living conditions			

Characteristics	Number (n) percentage (%)	Number of males (%)	Number of females (%)
Living alone	29 (4.0)	16 (55.2)	13 (44.8)
Living with spouse only	92 (12.7)	47 (51.1)	45 (48.9)
Living with spouse and children	427 (59.0)	212 (49.6)	215 (50.4)
Living with children only	158 (21.9)	142 (89.9)	16 (10.1)
Living with other relatives/non-relatives	17 (2.4)	15 (88.2)	2 (11.8)
Visited by friends or relatives			
No	174 (24.1)	114 (65.5)	60 (34.5)
Yes	549 (75.9)	318 (57.9)	231 (42.1)
Attended religious activities			
No	82 (11.3)	56 (68.3)	26 (31.7)
Yes	641 (88.7)	376 (58.7)	265 (41.3)
Financial independence			
Dependent	426 (58.9)	311 (73)	115 (27)
Partially/fully independent	297 (41.1)	121 (40.7)	176 (59.3)

Table (2): Activity limitation and morbidity status of the home-dwelling older people (Total N=723)

Characteristics	n (%)
Prevalence of limitations in ADL	
No limitations	601 (83.1)
Single limitation	26 (3.6)
Two limitations	16 (2.2)
Three limitations	17 (2.4)
Four limitations	10 (1.4)
Five or more limitations	53 (7.3)
Prevalence of limitations in IADL	
No limitation	438 (60.6)
Single limitation	86 (11.9)
Two limitations	36 (5)
Three limitations	37 (5.1)
Four limitations	24 (3.3)
Five or more limitations	102 (14.1)
Presence of chronic disease	
No major chronic condition	203 (28.1)

Characteristics	n (%)
One condition	221 (30.5)
Two conditions	154 (21.3)
Three conditions	88 (12.2)
Four or more comorbidities	57 (7.9)
Disease conditions	
Hypertension	315 (43.6)
Diabetes mellitus (Type 2)	232 (32.1)
Coronary heart disease	159 (22)
Chronic arthritis	158 (21.9)
Chronic respiratory disease	69 (9.5)
Disabling stroke	27 (3.7)
Kidney disease	15 (2.1)
Thyroid disease	10 (1.4)
Osteoporosis	6 (0.8)
Cancer	4 (0.6)
ADL, activities of daily living; IADL, instrumental activities of dailyliving.	

Table (3): The overall QOL and domain-specific QOL scores of the study population (N=723)

	Physical health	Psychological	Social relationships	Environmental	Overall QOL
Minimum	0	6	0	13	24
Mean score (SD)	55.81 (15.80)	59.25 (14.68)	46.34 (20.08)	64.61 (11.96)	56.73 (12.57)
25th percentile	44.00	50.00	31.00	56.00	48.50
Median score	56.00	56.00	50.00	69.00	56.50
75th percentile	69.00	69.00	56.00	75.00	66.25
Maximum	94	100	94	100	89
QOL, quality of life.					

Table (4): Regression analysis of the overall QOL score among home-dwelling older people (N=723)

Variables	N	Unadjusted model β	CI	P value	Adjusted model β	CI	P value
Gender							
Female	291	1	Reference				
Male	432	6.16	4.34, 7.98	<0.001	1.65−0.08, 3.22		<0.05
Age							

Variables	N	Unadjusted model		P value	Adjusted model		P value
		β	CI		β	CI	
65–74 years	506	1	Reference				
75–84 years	173	−4.59	−6.74, −2.45	<0.001	−1.19−2.89, 0.50		0.168
>85 years	44	−5.46	−9.29, −1.63	<0.01	0.22, −2.77, 3.22		0.883
Educational status							
No education	92	1	Reference				
Primary	348	7.19	4.49, 9.88	<0.001	2.12−0.11, 4.36		0.063
Secondary	242	9.85	7.03, 12.66	<0.001	3.29	0.93, 5.64	<0.01
Tertiary	41	17.55	13.18, 21.92	<0.001	8.91, 5.25, 12.56		<0.001
Living conditions							
Living alone	29	1	Reference				
Living with spouse only	92	8.95	3.99, 13.92	<0.001	6.43, 2.46, 10.41		<0.01
Living with spouse and children	427	8.02	3.54, 12.49	<0.001	5.05	1.45, 8.66	<0.01
Living with children only	158	−0.91	−5.62, 3.79	0.702	0.75, −3.08, 4.58		0.700
Living with other relatives/non-relatives	17	−4.52	−11.64, 2.59	0.213	−1.33, −7.08, 4.40		0.647
Visited by friends or relatives							
No	174	1	Reference				
Yes	549	7.67	5.6, 9.74	<0.001	3.13	1.43, 4.83	<0.001
Attending religious activities							
No	82	1	Reference				
Yes	641	12.45	9.70, 15.20	<0.001	7.01	4.72, 9.29	<0.001
Financial independence							
Dependent	426	1	Reference				
Partially/fully independent	297	6.65	4.85, 8.46	<0.001	3.52	1.99, 5.06	<0.001
Limitations of ADL							
No	601	1	Reference				
Yes (one or more)	122	−14.9, −17.12, −12.73		<0.001	−6.44 −8.69, −4.19		<0.001
Limitations of IADL							
No	438	1	Reference				
Yes (one or more)	285	−9.88, -11.61, −8.14		<0.001	−4.82, −6.50, −3.15		<0.001
Presence of chronic disease							
No disease	203	1	Reference				
One disease	221	−3.58	−5.92, −1.23	<0.01	−0.75,−2.87, 1.36		0.486
Two diseases	154	−3.72, −6.30, −1.14		<0.01	−0.74, −3.71, 2.23		0.625

Variables	N	Unadjusted model β CI	P value	Adjusted model β CI	P value
Three diseases	145	−7.95, −10.58, −5.33	<0.001	−2.24, −6.12, 1.62	0.254
Hypertension					
No	408	1 Reference			
Yes	315	−2.84 −4.68, −0.99	<0.01	−1.03, −3.45, −1.38	0.401
Heart disease					
No	653	1 Reference			
Yes	70	−5.81 −8.89, −2.74	<0.001	−2.84 −5.58, −0.10	<0.05
Chronic respiratory disease					
No	654	1 Reference			
Yes	69 −5.66	−8.76, −2.56	<0.001	−2.16 −4.72, −0.38	0.096
Chronic arthritis					
No	565	1 Reference			
Yes	158 −6.08	−8.26, −3.90	<0.001	−3.01 −5.00, −1.01	<0.01
Disabling stroke					
No	696	1 Reference			
Yes	27	−10.19 −14.98, −5.41	<0.001	−2.33 −6.10, 1.42	0.223

*p values with significant associations are bolded.

ADL, activities of daily living; IADL, instrumental activities of daily living; QOL, quality of life; β, beta coefficient.

Table (5): Summary table of significantly associated sociodemographic factors, activity limitations, and comorbidities on domain-specific QOL through simple and multiple linear regression analysis (N=723)

Associated factors		N	Unadjusted model β (CI)	Adjusted model β (CI)
Physical healthdomain	Gender—Male	432	7.70 (5.41, 9.98) ***	4.73 (2.87, 6.58) ***
	Educational status			
	Tertiary	41	13.27 (7.59, 18.96) ***	4.63 (0.16, 9.11) *
	Attended religious activities	641	14.99 (11.52, 18.46) ***	7.29 (4.48, 10.11) ***
	Financially independent	297	5.32 (3.01, 7.64) ***	2.24 (0.34, 4.10) *
	One or more ADL limitations	122	−22.35 (−24.97, −19.74) ***	−12.17 (−14.94, −9.41) ***
	One or more IADL limitations	285	−15.29 (−17.37, −13.21) ***	−8.23 (−10.29, −6.17) ***
	Heart diseases	70	−7.84 (−11.70, −3.98) ***	−4.57 (−8.13, −1.01) *
	Chronic arthritis	158	−8.68 (−11.40, −5.96)	−5.17 (−7.93, −2.41) **

Associated factors		N	Unadjusted model β (CI)	Adjusted model β (CI)
			***	
	Osteoporosis	6	−21.48 (−34.11, −8.85) **	−16.95 (−26.46, −7.44) ***
Psychological domain	Educational status			
	Tertiary	41	15.20 (9.98, 20.42) ***	5.84 (0.16, 9.11) *
	Living with spouse only	92	8.17 (2.21, 14.13) **	5.73 (0.79, 10.68) *
	Attended religious activities	641	14.98 (11.78, 18.18) ***	8.93 (6.09, 11.78) ***
	Financially independent	297	5.88 (3.74, 8.02) ***	3.17 (1.26, 5.07) **
	One or more ADL limitations	122	−16.84 (−19.43, −14.25) ***	−7.88 (−10.68, −5.09) ***
	One or more IADL limitations	285	−10.75 (−12.80, −8.70) ***	−4.99 (−7.07, −2.91) ***
	Heart diseases	70	−7.38 (−10.97, −3.80) ***	−4.84 (−8.20, −1.48) *
	Chronic respiratory diseases	69	−6.57 (−10.19, −2.95) ***	−3.80 (−6.87, −0.72) **
	Chronic arthritis	158	−6.47 (−9.02, −3.91) ***	−3.94 (−6.26, −1.62) **
	Disabling stroke	27	−15.25 (−20.80, −9.70) ***	−7.49 (−12.18, −2.80) **
	Cancer	4	−17.09 (−34.51, −2.68) **	−12.18 (−23.81, −0.56) *
Social relationships domain	Educational status			
	Primary	342	12.21 (7.89, 16.53) ***	5.27 (1.30, 9.25) **
	Secondary	242	15.13 (10.61, 19.64) ***	6.35 (2.18, 10.53) **
	Tertiary	41	27.45 (20.44, 34.46) ***	15.87 (9.38, 22.35) ***
	Living with spouse only	92	19.05 (11.24, 26.86) ***	16.18 (9.12, 23.23) ***
	Living with spouse and children	427	17.58 (10.54, 24.64) ***	13.68 (7.27, 20.08) ***
	Visited by friends or relatives	549	12.03 (8.71, 15.35) ***	6.2 (3.18, 9.22) ***
	Attended religious activities	641	14.56 (10.05, 19.06) ***	7.57 (3.51, 11.63) ***
	Financially independent	297	1.48 (5.30, 11.14) ***	3.80 (1.08, 6.52) **
	One or more ADL limitations	122	−17.98 (−21.67, −14.29) ***	−8.07 (−12.05, −4.08) ***
Environmental domain	Educational status			
	Primary	342	7.21 (4.63, 9.78) ***	4.51 (2.03, 6.99) ***
	Secondary	242	8.95 (6.26, 11.65) ***	5.41 (2.81, 8.02) ***

Associated factors		N	Unadjusted model β (CI)	Adjusted model β (CI)
	Tertiary	41	16.02 (11.83, 20.20) ***	10.95 (6.89, 15.01) ***
	Visited by friends or relatives	549	5.52 (3.52, 7.53) ***	2.90 (1.02, 4.78) **
	Attended religious activities	641	8.95 (6.27, 11.62) ***	5.70 (3.15, 8.26) ***
	Financially independent	297	5.93 (4.20, 7.65) ***	3.91 (2.19, 5.62) ***
	One or more IADL limitations	285	−5.52 (−7.27, −3.78) ***	−3.08 (−4.93, −1.23) **
	Chronic arthritis	158	−4.15 (−6.25, −2.06) ***	−2.84 (−4.74, 0.94) **
	Disabling stroke	27	−8.75 (-13.31, −4.18) ***	−4.90 (-9.10, −0.70) *

***P<0.001, **p<0.01, *p<0.05.

ADL, activities of daily living; IADL, instrumental activities of daily living; β, beta coefficient.

Discussion

This community-based cross-sectional study examined the factors affecting the overall and domain-specific QOL of home-dwelling older people. This is a large representative sample of home-dwelling older people using the multistage cluster sampling technique, with a questionnaire-based interview design, where the data gathered at the household level included validated tools, such as the Barthel Index, Lawton IADL scale and WHOQOL-BREF scale. Similar sampling methods for the older population have been adopted by Devraj and D'mello, (2019) (20) Kumar et al, (2014) (5) Hameed et al., (2014) (21) 22 in India, and Siriwardhana et al., (2018) (19) in Sri Lanka to assess limitations in activities.

Concerning assessing the QOL, similar sampling methods were adopted by Su et al., (2016) (22) among the elderly in China, and by cross-sectional studies carried out by Araujo et al., (2019) (23) in Brazil and by Curcio, Henao, and Gomez, (2014) (24) in Colombia. Most of these studies used the 10-item Barthel Index and Lawton IADL scales to assess limitations in activities. Disease conditions were determined based on the diagnostic conclusions made by medical professionals in charge of the elderly. Although most of the previous studies (4, 5, 20, 21, 25) applied the WHOQOL BREF questionnaire to assess the QOL, the domains used in the present study did not make direct comparisons possible due to some specific differences in the assessment scales we used in data collection.

The overall QOL experienced by older people in the present study is moderate. The significant highest and the lowest mean scores are observed for the environmental (64.61±11.96) and the social relationships (46.34±20.08) domains, respectively. Higher QOL scores were reported from rural populations,5 21 22 while the scores were lower from urban areas (5). Moreover, studies in rural areas report higher scores for social well-being (21, 25) in addition to the overall QOL. Contrasting results with higher scores for urban and lower scores for rural populations were reported in a recent comparative study conducted in South India (26).

The principal reason attributed to the difference was poor health status due to many chronic diseases of the older people in rural areas when compared with urban-based elderly. Although the focus of the present study is exclusively on older people in urban settings, such a difference is a likely finding in any setup with unequal distribution of health

resources. In addition, living alone was another factor associated significantly with poor QOL in the physical and social relationships domains of the elderly living in rural areas (26). Further, higher QOL scores for the physical health domain (5, 7, 9, 21) are reported in studies consisting of older people in the younger (60–69) age groups (5, 7, 21). The QOL of older people is influenced by various factors, which include sociodemographic variables like age, living environment, and living alone. Thus, addressing these factors will improve the QOL about physical health and social well-being.

Education plays an essential role in maintaining the QOL of older people as it is often linked with better health awareness, a strong social network, and a greater income (27). In our study, older people with a higher educational status demonstrate a better QOL. Even in previous studies, a significantly higher QOL was shown among older people who had read for a university degree (6) whereas it was significantly lower among those who had received only primary education or had received no formal education (4). Older people with a good literacy level are concerned about their lives, family, social relationships, and the surrounding environment, whereas those without formal education have poor health literacy, health-seeking behaviors, and self-care related to nutrition. Therefore, it is important to assess the knowledge of the elderly and their caregivers and design tailor-made programs to improve their knowledge and skills in providing home-based care for the elderly.

The association between social relationships, independence and QOL in older persons is well established. In the present study, living with the spouse had a significant positive impact on the overall QOL as well as on QOL related to psychological health and social relationships. Similarly, older people who live with their spouses (25), spouses who retired, and spouses in the younger age category (6) had a higher QOL probably because they tend to share their physical, psychological, and social needs and experiences (28). Living with children, but without a spouse, does not seem to have a positive impact on the QOL of the cohort of older people studied.

However, some previous studies report older people experiencing loneliness and depression due to a lack of attention from their children (4, 29), who are probably engaged with their own occupational and family commitments. In addition, the feeling of loneliness that follows the death of the spouse further reduces the QOL, especially in the physical and psychological aspects (4). In a study conducted in Poland, social interactions were reported to improve the psychological well-being of older people (25). In the present study, interactions with family and friends showed significant benefits in the social and environmental aspects of the QOL, while living with the spouse improves the psychological health of the older persons, which may be attributed to the cultural differences between the two settings.

In addition, participation in social activities such as voluntary charity work, educational activities, involvement in sports, social clubs, and community organizations are positively associated with QOL among the elderly (30). Further, in a recent study conducted in Myanmar, attending religious activities was shown to improve social relationships (31) as they enable older persons to mingle with peers, share information, and enjoy their time together. In addition, religiosity helps older people to cope with their problems (34), create inner peace (33), and thereby improve the QOL. Our finding of a positive association between attending religious activities and improved QOL warrants encouraging older people to attend religious activities regularly to improve their QOL. Prioritizing the management of home-based care would be of particular importance in the care of older people who are widowed or divorced, to improve their QOL in the psychological domain.

This study also found that financial independence increases the overall QOL and domain-specific QOL of older people, which is supported by most other studies (4-7, 20, 34, 35). It is noteworthy that the majority (70%) in this study belonged to the youngest segment (65–74 years), but only 3.6% were self-employed, which indicates that introducing supportive

services to establish income-generating activities matched to their physical abilities would make a positive impact. In parallel with other studies (5, 9, 19, 37-40), we found that the limitations in activities significantly reduce the QOL of older persons. Although both physical and psychological health is negatively affected by limitations in ADL and IADL, social relationships are specifically hampered by limitations in ADL whereas environmental aspects by limitations in IADL.

Limitations in ADL represent a severe form of disability, as ADLs are the most basic and essential activities to carry out daily tasks (41, 42). Older people with limitations in ADL predominantly has mobility-related limitations (43) that hinder their community participation (44) and this is the likely explanation for the reduced QOL in the social relationships domain we observed. However, as aging itself, with or without physical impairment tends to reduce social interactions (4, 6), steps must be taken to improve social relationships among older persons regardless of limitations in activities to ensure a better QOL. Limitations in IADL primarily depend on cognition (45) and the older people with limitations in IADL in the present study have poor QOL affecting mostly areas related to environmental and psychological well-being.

Conclusion

Many sociodemographic, behavioral-related factors of self and family, disease status implied overall and domain-specific QOL. The findings of this study have direct implications for healthcare professionals, caregivers, policymakers, and planners. This highlights the importance of healthy lifestyle practices to minimize limitations in activities, financial independence, social support, community participation in social activities, and optimum management of morbidities among older people in improving QOL.

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