



Original Article

The Association Between Self-Care and Quality of Life Among Iranian Older Adults: Evidence from a Multicenter Survey

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ARTICLE INFO

Article History:

Received: 30/05/2023

Revised: 24/09/2023

Accepted: 26/11/2023

Keywords:

Aged

Epidemiology

Quality of life

Self-care

Social class

Please cite this article as:

Soleimanpour H, Ghaffari Fam S, Sarbazi E, Gholami R, Azizi H, Daliri M, Sedighi S, Nikbakht HA, Shojaie L, Allahyari A. The Association Between Self-Care and Quality of Life Among Iranian Older Adults: Evidence from a Multicenter Survey. JRSR. 2024;11(4):196-201. doi: 10.30476/jrsr.2023.99026.1378.

ABSTRACT

Background: The growing number of aging people, ensuring their quality of life (QoL), and the social services designed for this population group are becoming increasingly significant concerns. This study explored how socioeconomic status and self-care affect older adults' QoL.

Methods: This cross-sectional study included 322 older people living in Tabriz in 2021. The subjects were recruited using a multi-stage sampling method. Older persons were asked to complete the Socio-Economic Status (SES) questionnaire, the Self-Care Behavior Questionnaire, and the Iranian version of the 12-item Short Form Health Survey (SF-12).

Results: A hierarchical logistic regression analysis model was used to investigate the factors influencing QoL. The regression analysis showed that marital status, social self-care, and self-care during illness significantly impacted the older person's quality of life ($P < 0.05$). Twenty-nine and twenty-seven percent of the variance in the mental and physical health dimensions, respectively, were predicted by the variables included in the model.

Conclusion: Promoting social self-care and self-care during illness had a positive relationship with the QoL of older persons. These results can serve as a reference for future studies pertinent to self-care for older adults.

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Introduction

The global population is aging rapidly, driven by growing life expectancy and declining fertility rates [1]. The older adult population is expected to increase to 1,100 million by 2025 [2]. The relevance of the aging phenomenon and the prevention of associated disorders

in Iran are heightened because all humans have the right to age healthily. Aging brings about several changes in the health of older persons, including a decline in physical, mental, and intellectual abilities, as well as a host of ailments [1, 2]. Further, difficulties with self-care are inevitable for older people.

Recent research has shown that people over the age of 65 develop a wide range of medical conditions that necessitate the utilization of preexisting healthcare systems [3]. Older persons may have financial difficulties

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due to rising medical expenses and the strain of medical care caused by an increase in the frequency of medical treatments and hospital visits [4]. To avoid misusing health service resources, older adults may need effective health organization and self-care [5].

Self-care refers to meeting one's needs and welfare, particularly during illness. It involves engaging in positive actions and adopting preventive habits to mitigate the risk of falling unwell. Self-care enhances health outcomes and promotes the proper utilization of health and social care resources [6]. Self-care maintenance consists of behaviors that boost welfare, protect health, or maintain emotional and physical stability [7]. Klainin and Ouannapiruk conducted a meta-analysis study on self-care among older individuals in Thailand. Their findings indicated that demographic factors, including age, gender, and education, did not exhibit a positive correlation with self-care activity [8]. Key health-promoting self-care activities encompass healthy dietary habits, regular physical exercise, effective stress management, spiritual development, positive emotions, and taking personal responsibility for one's health [8, 9]. Self-care results in better health and quality of life, lower medical expenses, and greater contentment with life [10].

Quality of Life (QoL) is a crucial metric for assessing health status and is frequently utilized to gauge health disparities between various social groups [11]. Socioeconomic Status (SES) plays a significant role in defining an individual's QoL because it is directly or indirectly associated with several conditions [12]. Over the last decade, the connection between (SES) and QoL has become a prominent topic in healthcare studies. Previous research has linked SES to various measures of QoL, including self-rated health [13]. This concept encompasses various facets of human life, such as spiritual, mental, physical, and social functions, as well as environmental and material aspects. Numerous issues, such as physical illnesses and psychological problems related to older age, can affect the QoL of frail older adults. Identifying the factors affecting QoL is a prerequisite for improving the health of the subgroups within each community [14]. Additionally, measuring QoL is the first step in designing effective interventions to enhance people's health. Based on the Azar cohort study, which explored the relationship between self-care and QoL in hypertension patients in the northwestern provinces of Iran, medication use was the only significant predictor of QoL among older adults [15]. This study examined how self-care and socioeconomic status influences older individuals' QoL.

Methods

Study Design and Setting

This observational cross-sectional research comprised 322 older individuals residing in Tabriz, Iran. It was conducted in early 2021 using telephone conversations with older adults in collaboration with three health specialists from Tabriz health institutions. Tabriz is the capital of the East Azerbaijan province and ranks as the fourth largest city in Iran. It is located in the country's northwest region, and over 10 percent of its residents

are 60 years old or older. Tabriz is the predominant economic center and metropolis in the northwest region of Iran. The population is predominantly Azerbaijani, with Azerbaijani-Turkish being the primary language spoken. However, inhabitants also have proficiency in Persian as a secondary language [16].

Sampling

The sample size was calculated by using the following formula:

$$N = \frac{Z^2 P(1 - P)}{d^2}$$

When n=sample size, Z=z statistic for a confidence level, P=expected proportion, d=precision. With a 50% chance of quality of life, a type I error of 0.05, and an absolute error of 0.5, the descriptive study formula determined that a minimum of 322 samples was needed for the study. The health center records all residents' health information according to the Iranian health system. As a result, participants were selected for the study following a review of their medical records at the health center. Using a multi-stage sampling method, sampling was performed randomly from each of the 16 health centers' Health Integrated System (HIS) sources.

Eligibility and Exclusion Criteria

Older adults aged 60 and older with basic literacy skills and no self-reported history of chronic illness were included. Exclusion criteria were not residing in Tabriz City and having hearing or mental problems.

Measures Demographics

Demographic variables collected were sex, age, marital status, literacy, job status, and social support.

Self-care

Hemmati claims that 45 items were extracted based on a review of studies according to Orem's theory [17]. The questionnaire was condensed to 40 items in five primary categories after the content validity was validated quantitatively and qualitatively. The five identified factors accounted for 79.9% of the total variance observed in the questionnaire. The first was physical self-care, with a Cronbach's alpha (α) of 0.746. The second was daily self-care, with an α factor of 0.74; the third was psychological self-care, with an α of 0.84; the fourth was social self-care, with an α of 0.83; and finally, the fifth was the dimension of self-care during illness, which had an α of 0.90. Overall, the scale had an internal consistency of 0.86 [17]. Our study's self-care questionnaire had a Cronbach's alpha of 0.93.

Socio-economic Status (SES)

We utilized the validated and dependable questionnaire designed by Abobakri et al. to assess five domains: the primary factor ($\alpha=0.84$), self-assessment of spending capability ($\alpha=0.96$), income ($\alpha=0.70$), home and furnishings ($\alpha=0.66$), and health-related expenses ($\alpha=0.55$). All components, except the wealth domain, had an interclass correlation coefficient greater than 0.6 [16].

Quality of Life

The Iranian version of the 12-item Short Form Health Survey (SF-12), a shortened form of SF-36, was used to assess the QoL related to the subjects' health. Montazeri et al. examined the validity and reliability of this questionnaire in Iran. The reliability of 12 questions on psychological and physical constituents was found to be 0.73 and 0.72, respectively. This questionnaire includes eight subscales of general understanding of self-health, encompassing emotional problems, social functioning, physical pain, physical health, vitality and vital energy, physical function, and mental health. The first four subscales are physical components, and the second four subscales are the psychological components of QoL. This questionnaire has a score range of 12 to 48 points. The items' response categories range from two to six points on a six-point scale, while the raw scores range from one to six [18]. The transformed scores are used to calculate the scores for the eight scales, with a higher score indicating better-perceived health [19]. In the current investigation, the scale's reliability was 0.90 using Cronbach's alpha. For the quantitative content validity assessment, a panel of 8 specialized professionals found that the CVI (between 0.90 and 1.00) and CVR (between 0.88 and 0.98) results were adequate for each item and, consequently, for the SF-12.

Ethical Consideration

Before initiating the interview, verbal informed consent was secured from the legal guardians of each prospective participant. The selected individuals were invited to a research briefing, where obligatory explanations were provided about the research objectives and the implementation method. The study was approved by the regional Ethics Committee of Tabriz University of Medical Sciences (IR.TBZMED.REC.1398.753).

Statistical Analysis

Descriptive statistical methods, namely mean, standard deviation (SD), frequency, and percentage, were used to describe the data. The t-test was utilized for continuous variables, and the chi-square test was employed

for stratified variables to screen for differences in fundamental features between the two groups. Initially, we incorporated the demographic characteristics variables into the study utilizing the entry approach. Next, we incorporated the demographic features and SES variables into the model during the second step. Finally, in the third step, we entered the self-care dimensions in addition to the variables from the second step. The dependent variables were dimensions of QoL, including physical health and mental health, respectively. Statistical evaluations were conducted utilizing SPSS software version 20 (Armonk, NY: IBM Corp.), and the significance level was set at 0.05.

Results

Description of the Participants

Finally, 322 older adults participated in the study (response rate: 88%). The ages of individuals spanned from 60 to 96 years, with a mean age of 68.02 (SD: 8.14). Out of 322 samples, 49.1% were male. Most participants possessed only a low or medium level of education (88%). In terms of marital status distribution, 85.8% were married. It was found that 57% were retired, 3% were employed, 21% received money from their family, and 19% had no income. About 22% of the older persons' families supported them, 22.5% were supported by their children, and 55.5% had other forms of support. Table 1 presents an overview of sample characteristics.

We used hierarchical regression to predict QoL through demographic characteristics, SES, and self-care.

A hierarchical regression analysis was used to predict QoL based on demographic variables, SES, and self-care. In the first step, demographic variables, including marital status, age, gender, and level of education, were entered into block one. Then, in the second block, SES was added to the model in addition to demographic variables.

Physical Health

In the first step (block 1), as shown in Table 2, the demographic characteristics of the respondents explained 13% of the observed variance in physical health, which

Table 1: The sociodemographic attributes of the older adult participants in the study, Tabriz 2021 (n=322)

Variables		Mean±SD
Age		68.02±8.14
Gender		n (%)
	Male	158 (49.1)
	Female	164 (50.9)
Education		
	No formal education	283 (88.0)
	Lower Diploma	17 (5.2)
	Upper Diploma	22 (6.8)
Marital status		
	Single	15 (4.6)
	Married	276 (85.8)
	Divorced and widow	31 (9.6)
Family's monthly income		
	Retired	183 (57.0)
	Employed	10 (3.0)
	From their family	67 (21.0)
	No income	62 (19.0)
Type of support from older adult		
	Family supported	71 (22.0)
	Children supported	73 (22.5)
	Other forms	178 (55.5)

Table 2: Hierarchical regression for prediction Quality of Life (QoL) through demographic characteristics, Socio-Economic Status (SES), and self-care

Dimensions	Independent variables	Standardized Coefficients Beta	P value	R square	
Physical Health	Block 1	Age	0.02	0.659	0.13
		Gender	-0.01	0.758	
		Marital status	-0.36	0.001	
		Literacy	0.07	0.188	
	Block 2	Age	0.02	0.612	0.14
		Gender	-0.02	0.652	
		Marital status	-0.38	0.001	
		Literacy	0.04	0.416	
		SES	0.09	0.084	
	Block 3	Age	-0.03	0.426	0.27
		Gender	0.01	0.517	
		Marital status	-0.22	0.001	
		Literacy	0.08	0.713	
		SES	0.03	0.105	
		Physical self-care	0.08	0.098	
Mental Health	Block 1	Age	-0.06	0.283	0.11
		Gender	-0.04	0.447	
		Marital status	-0.08	0.130	
		Literacy	-0.05	0.372	
	Block 2	Age	-0.06	0.285	0.13
		Gender	-0.04	0.446	
		Marital status	-0.09	0.133	
		Literacy	-0.05	0.380	
		SES	0.00	0.947	
	Block 3	Age	-0.04	0.392	0.29
		Gender	-0.02	0.679	
		Marital status	-0.04	0.396	
		Literacy	-0.04	0.423	
		SES	-0.03	0.554	
		Physical self-care	0.04	0.509	
	Daily self-care	-0.06	0.463		
	Emotional self-care	0.15	0.084		
	Social self-care	0.04	0.556		
	During illness self-care	0.25	0.001		

SES: Socio-Economic Status

was statistically significant. Marital status was the only significant predictor in this block. However, in the second block, SES increased the observed variance in physical health by only 1% ($R^2=0.14$), which was not statistically significant. The third block studied the predictive power of self-care (physical, daily, emotional, social, and during illness self-care), combined with demographic and SES variables, for physical health. The variables in this block explained 27% of the observed variance in physical health ($P<0.01$).

Mental Health

In block 3, for a unit increase in during-illness self-care, the mental health dimension increased by 0.25 units ($P<0.001$). Additionally, in block 3, the variables predicted 29% of the variance in the mental health dimension of QoL (Table 2).

Discussion

This cross-sectional study depicts the factors determining the various dimensions of QoL in older adults over 60 in

Tabriz. The results showed that demographic factors and self-care aspects determine QoL in older adults.

According to the results, single women, widows, and divorced women had lower physical health than the married population. These results were consistent with the study by Kyu-Tae Han, who stated that the problems of marriage and celibacy gradually increase with age [20]. Another research highlighted that being married could serve as a potential safeguard against depressive symptoms and mental disorders in late adulthood [21].

A possible explanation for this is that married people have more family and social support, which improves mental health and even increases the survival rate of older adults with chronic diseases such as cancer [22]. Our study also showed that increasing social self-care is an effective factor in improving the physical health dimension of QoL. This observation aligns with the results of prior research, showing that QoL improves with increasing social participation among older adults. Moreover, fewer relationships with friends are associated with decreased QoL [23]. It can be pointed out that older adults who have more opportunities to socialize and

interact with others feel less lonely, and their self-esteem and life satisfaction are strengthened. Therefore, more participation by older adults in society can help increase their QoL.

Our study revealed that increasing self-care during illness is the only effective factor in raising the mental health dimension of QoL. Additionally, other studies have reported gender, SES, health insurance, and current employment status as factors affecting mental health and QoL in older adults [24]. Therefore, a possible reason for the increase in mental health and QoL when a person can take care of themselves during illness could be their self-confidence and lack of reliance on others, which prevent them from feeling like a burden.

The current study also found that SES, emotional, and physical self-care were directly and positively associated with the social health QoL of older adults. In contrast, age and social self-care were negatively associated with this dimension. Momenabadi's study indicated that social participation has a notable relationship with age, level of education, marital status, and occupation [25, 26]. Moreover, a direct and substantial correlation was noted between social participation and QoL. Recent studies have mentioned socializing and communication with friends as positive and effective factors in increasing social QoL, which is not in line with our study [27].

Regarding the relationship between SES and the increase in QoL in the social dimension, Robert's study also showed that higher SES in all age groups is associated with better QoL. Yang's study indicates that higher SES is a significant element in increasing the QoL of the aged [27]. Most studies have confirmed the same result. Literacy, employment, and income play essential roles in human life and communication. Improving these factors leads to more social communication and, consequently, an increase in QoL.

Our study found an inverse correlation between age and social QoL. This was consistent with Samadarshi *et al.*'s study [28] and Momenabadi *et al.*'s study [25], which stated that QoL decreases with age. In contrast, Naser Khaki's study [29] did not note a substantial relationship between age and any dimensions of QoL. This discrepancy can be attributed to older adults in lower age groups having fewer mental, physical, and social limitations. With aging, functional disorders increase, significantly impacting their QoL. Therefore, age can be an influential factor in classifying older adults based on their needs.

Our study reveals a direct relationship between physical self-care and social QoL. These results align with prior studies indicating a positive correlation between engaging in physical activity and enhanced QoL among elderly individuals. [30]. Research in Korea also found that perceived social support positively affects physical activity, subsequently impacting QoL [31]. Therefore, developing extracurricular programs and physical activities can facilitate social engagement for elderly individuals.

Our research revealed a positive correlation between emotional self-care and social QoL. Other studies have also shown that spiritual and emotional self-care are

significant predictors of QoL [9, 32]. Emotional and spiritual self-care makes life more meaningful and can improve QoL and social participation.

Our study found that age is an effective and positive factor in mental health, which is consistent with Vahia *et al.*'s study [33], indicating that older people probably have robust religious convictions and a higher life expectancy. In contrast, the investigation by Seraji *et al.* [34] showed no relationship between age and the psychological health of elderly individuals. The SES in our study was directly related to the spiritual QoL, which is consistent with Jafaripoor *et al.*'s study [35] and Sadrollahi's [36]. In contrast, the study by Lynch *et al.* [37] depicted that people with higher education and income have lower spiritual health.

Several limitations of this study need to be acknowledged. The present research was conducted during the COVID-19 pandemic, and data was collected via telephone interview. As a result, high-quality information may not have been collected due to a lack of face-to-face interaction between the questioner and the older person. Additionally, the state of self-care and quality of life during an epidemic differs significantly from normal life conditions. Therefore, it may not be logical to generalize the results to other contexts and times. Moreover, as the present study design is unsuitable for proving causality, prospective studies with follow-up of older people and measurement of changes are necessary.

Furthermore, this study was performed only in the center of one province. Given the significant differences in the communities' cultural, economic, and social conditions, these variables significantly impact the main findings of this study. Therefore, conducting various studies in other parts of the country is necessary for a more precise conclusion.

Conclusion

In this study, self-care during illness, marriage, and social self-care were identified as strong predictive factors for the quality of life in older adults. The results emphasize the supportive role of the spouse and family, highlighting the need for family support and increased responsibility toward older adults. Therefore, cultivating and educating society, especially families, is necessary. This study also emphasizes the role of social support, necessitating increased participation of older individuals in social activities. To support this, managers and policymakers must provide the necessary facilities and platforms in society, especially in the health sector. Finally, the study's findings underline older people's dependence on self-care, highlighting the need to provide the required knowledge and skills to empower older individuals.

Acknowledgment

The authors extend their appreciation to all older people who participated in this investigation. The research protocol received approval and support from the Aging Research Institute, Tabriz University of Medical Sciences, Tabriz, Iran (Registration code: 61419).

Conflict of Interest: None declared.

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