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# Investigating the sexual quality of life and its relationship with general health in older men in Iran

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## Abstract:

**INTRODUCTION:** Sexual problems in elder people are considered as a public health concern and can affect their overall health and quality of life. This study aimed to investigate the sexual quality of life and its relationship with general health in older men in the west of Iran.

**METHODS:** This was a cross-sectional study among 362 older men aged 60 years or older attending Comprehensive Health Care Centers in Ilam, Iran. Samples selected through Quota sampling method and simple random sampling. Data were collected using the Sexual Quality of Life Questionnaire-Male and General Health Questionnaire-28.

**RESULTS:** The mean  $\pm$  standard deviation (SD) of age was  $69.9 \pm 8.1$  years. The mean  $\pm$  SD score of sexual quality of life and general health of older men was  $46.6 \pm 14.6$  and  $19.2 \pm 9.7$ , respectively. A positive and significant association was found between sexual quality of life and general health ( $P < 0.001$ ,  $r = -0.41$ ). Moreover, general health, age, sleep problems, and the level of education were the important predictors for sexual quality of life in elder men ( $P < 0.05$ ).

**CONCLUSION:** According to the results, the sexual quality of life of participants was at a moderate level. Since only some factors influencing the sexual quality of life were ascertained, further studies are required to investigate all factors influencing older men's sexual quality of life.

## Keywords:

General health, Iran, older men, sexual function, sexual quality of life

## Introduction

The elderly population is on the rise worldwide.<sup>[1]</sup> Iran, like other countries, will face the increase of people aged over 60 years and over in the future.<sup>[2]</sup> According to statistics, the ratio of the elderly population to the total population increased from 7.22% in 2006 to 8.20% in 2011 and 9.1% in 2017.<sup>[3]</sup>

Although old age does not mean the earlier onset of disease and disability, the elderly are more likely to expose to diseases, and health complications compared to younger people.<sup>[4]</sup> In Iran, given the fact that sexual problems are of high prevalence in older men, but this

has been less investigated.<sup>[5,6]</sup> Some studies showed that this problem is not only among Iranian older adults, but also is of high prevalence in the older men.<sup>[7-10]</sup> A survey by Hyde *et al.* showed that 49.9% of sexual problems in older men was related to erectile dysfunction, 4.7% related to decreased sexual desire in sexual activity, 38.7% related to the inability to reach orgasm, and 20.4% were concern about their ability in sexual activity. In general, 72% reported having at least one problem in sexual functioning.<sup>[11]</sup> The findings of some related studies in Iran show that sexual problems in older men are a subject that has been more taken into consideration in recent years.<sup>[12,13]</sup>

Sexual quality of life is defined as status that describes the individual's subjective

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evaluation of the positive and negative aspects of one's sexual relationship, and his/her subsequent affective response to this evaluation.<sup>[14]</sup> Despite the important role of sexual quality of life in life satisfaction and the elderly's good feeling, there are a few researches due to different reasons such as this misconception that the elderly have no sexual value anymore and change in age-related physiological and cognitive functioning naturally result in impaired sexual function and decreased sexual desire.<sup>[15]</sup> The elderly desire for reporting sexual issues and participating in studies due to embarrassment in one-to-one interviews and self-reporting biases than the younger is lower.<sup>[16]</sup>

According to some studies, some factors including a high sexual quality of life in the older people associated with physical and psychological health, age, the level of education, positive attitude toward sexual issues, having happy social connections, spouse's physical and mental health, sleep satisfaction, etc., are the most critical factors contributing to the sexual quality of life.<sup>[17,18]</sup> Much of the predictor diseases of sexual functioning are low.<sup>[19-21]</sup>

One of the most critical issues in old age is general health status, which can affect the function and sexual quality of life of older adults.<sup>[22]</sup> Most of the psychological and physical health status, such as blood pressure, coronary artery disease, diabetes, insomnia, anxiety, and depression, are associated with sexual dysfunction.<sup>[23,24]</sup>

In general, numerous factors affect the sexual quality of life of older men. However, little studies have been conducted in Iran regarding the role of each of these factors and their effects on older people's sexual functioning and the relationship of the older men's sexual quality of life with general health. In addition, conducting research about sexual issues and examining different dimensions in the older adults considering cultural and social barriers, especially in provinces located in the west of Iran, is not possible. The lack of appropriate studies, the contradiction in the results of some studies, and the absence of valid and reliable tools caused the investigation to face challenges. Hence, the objective of the study was to investigate the quality of sexual life and its relationship with general health in older men residing in Ilam, Iran.

## Methods

### Study design

This was a cross-sectional study.

### Study population

The study population was 362 men who met the following criteria: Aged >60 years, residing in Ilam city, being alive of a spouse, having health records in

comprehensive health centers, the lack of a severe mental and physical disease, being able to communicate through verbal communication, and willingness to participate in the study.

The exclusion criteria were as follows: having score <6 in the abbreviated mental test, the lack of willingness to continue the study, and imperfect response to questionnaires.

### Selection of study subjects

Sampling carried out using the quota method and simple random sampling. First, a list of comprehensive health-care centers together with the number of households with the elderly was designed. The sample size was characterized based on the ratio of the population covered by comprehensive health-care centers (18 centers) to the overall population. Standard deviation (SD) of sexual quality of life for estimation sample size was 11.67 according to the previous report using mean estimation in population formula Sadat study.<sup>[25]</sup> Considering a 95% confidence interval the overall sample size in this study was 362 subjects. Second, samples selected using a simple random sampling method and based on the one's national number. Then, participants were contacted and asked to refer to comprehensive health-care centers at a specific time for receiving care services and participating in the study if they wish. When participants attending the center, the interviewer attended the comprehensive health care center and explained the objectives of the study to the elderly. Informed consent was obtained from those willing to participate. After that, questionnaires were given to participants for completion. Interviewers completed the questionnaire for those participants who had not enough literate to complete the questionnaires. Those participants who were not agreed to participate in the study, alternative samples were selected randomly, and this continued until completing samples in each center.

### Study instruments

Three questionnaires were used for data collection. The first questionnaire was related to sociodemographic characteristics and problems associated with participants' well-being (such as age, education level, heart disease, and sleep problems). The second questionnaire was related to Sexual Quality of Life Questionnaire-Male. This questionnaire was designed in 2008 by Abraham et al.<sup>[26]</sup> This questionnaire aimed at assessing the sexual quality of life in older men by focusing on dimensions of sexual confidence, emotional health, and interpersonal relationship in the past 4 weeks.<sup>[27]</sup> The Persian version of the questionnaire like the original English version contains 11 items, each with a 6-point Likert scale ranging from "completely agree" (score 1) to "completely disagree" (score 6). The total score can range from 11 to

66 points. The higher the score indicates the greater the quality of life. The validity of the Persian version was conducted by Sadat (2017). Besides, the reliability of the questionnaire using the internal consistency assessment method was 0.95.

The third questionnaire was the General Health Questionnaire (GHQ-28). This questionnaire was designed to assess the general health status and comprises various versions. The GHQ-28 scale of the questionnaire was derived based on the original 60-item version by Goldberg and Hillier in 1979.<sup>[28]</sup> Twenty-eight item version has the highest validity, sensitivity, and specificity compared to other versions.<sup>[29]</sup> This questionnaire consists of four subscales; somatic symptoms (questions: 1–7), anxiety and insomnia (questions: 8–14), social functioning (questions: 15–21), and depression (questions: 22–28).<sup>[30]</sup>

There are different methods for scoring the questionnaire. Since, in most studies, the Likert scoring pattern has been used, this pattern was used in this study. In this method, the items are rated on a scale ranging from 0 to 3, with total scores ranging from 0 to 84.<sup>[31]</sup> In this questionnaire, the lower score represents better general health, and the score of more than 23 represents undesirable general health.<sup>[32]</sup> The validity and reliability of the questionnaire have been done several times in Iran. The assessment of the reliability of the questionnaire by Nazifi *et al.* showed Cronbach’s alpha coefficient 0.82 for subscales.<sup>[33]</sup>

### Ethical considerations

The first author was introduced to the research units, and data were collected from April to September 2019. The objectives of the study were explained to participants, and we assured all the participants that their participation in the study is voluntary. Informed consent was obtained from the participants. Further, no cost was imposed on participants and their family members. Participants were assured that all information would remain confidential, and they were free to withdraw from the research at any time. The interview was carried out by a male interviewer at the participants’ preferred place. The study proposal was approved by the Ethics committee’s Ilam University of Medical Sciences (IR.MEDILUM.REC.1398.051).

### Statistical analysis

Data were coded after collecting and were analyzed using SPSS software version 21 (SPSS Inc., Chicago, IL, USA). Data were analyzed by descriptive statistics (including; frequency, percentage, mean, and SD 95%) and also analytical statistics (including; Independent sample *t*-test, one-way ANOVA, Pearson correlation coefficient, linear regression, and multivariable linear regression model by forward method). The  $P < 0.05$  was considered as a statistical significance level in this study.

## Results

The sociodemographic characteristics are shown in Table 1. The mean age of participants was  $69.9 \pm 8.1$  (range 60–100 years old). About 55.5% of participants were 60–69 years old, and 15.5% were aged 80 years or older. Other sociodemographic characteristics and associated with participants’ health problems are represented in Table 1. The mean score of sexual quality of life and general health of participants was  $46.6 \pm 14.6$  and  $19.2 \pm 9.7$ , respectively. There was a significant and positive association between sexual quality of life and general health ( $r = -0.41, P < 0.001$ ). Our results showed that sexual quality of life in the elderly decreased with increasing age ( $P < 0.001$ ), while the employment status (retired/employed) ( $P < 0.001$ ) and having a higher level of education ( $P = 0.01$ ) lead to an improvement in sexual quality of life [Table 2].

As shown in Table 2, a direct and significant association was found between general health and employment status ( $P < 0.001$ ), as well as education status ( $P = 0.026$ ). Tukey’s *post hoc* test showed that the elderly aged 60–69 years ( $P < 0.001$ ) and aged 70–79 years ( $P = 0.002$ ) were more likely to have a higher sexual quality of life than elderly aged  $>80$  years. Moreover, general

**Table 1: Frequency and percentage of the socio-demographic characteristics and variables associated with health problems**

Variables	Modes	Frequency (%)
Age (years old)	60-69	201 (55.5)
	70-79	105 (29)
	>80	56 (15.5)
Employment status	Employed	59 (16.3)
	Unemployed	74 (20.4)
	Retired	229 (63.3)
Education status (years)	<12	267 (73.8)
	>12	95 (26.2)
Income adequacy	Adequate	30 (8.3)
	Inadequate	332 (91.7)
Kind of life	Accompanying spouse	68 (18.8)
	Accompanying spouse and child	294 (81.2)
Smoking cigarette	Yes	78 (21.5)
	No	284 (78.5)
Sleep problems	Yes	137 (37.8)
	No	225 (62.2)
High bold pressure	Yes	114 (31.5)
	No	284 (68.5)
Diabetes mellitus	Yes	51 (14.1)
	No	311 (85.9)
Coronary disease	Yes	86 (23.8)
	No	276 (76.2)
Skeletal problems	Yes	177 (48.9)
	No	185 (51.1)
Prostatic hypertrophy	Yes	126 (34.8)
	No	236 (65.2)

health status among elderly aged 70–79 years was more likely to have better general health than elderly aged >80 years ( $P = 0.002$ ). The correlation between questionnaire dimensions of general health and the total score of sexual quality of life are represented in Table 3.

A significant correlation was observed between the total score of GHQ-28 and dimensions of somatic symptoms ( $r = 0.82$ ), anxiety and insomnia ( $r = 0.80$ ), social functioning ( $r = 0.81$ ), and depression ( $r = 0.75$ ) ( $P < 0.001$ ). Since a higher score in the GHQ-28 questionnaire

represents lower general health, the correlation between the total score of general health and its subscales with sexual quality of life reported in the form of negative sign. Based on this, there was a correlation between the sexual quality of life in older men and the dimensions of GHQ-28.

To determine the most important predictor variables of sexual quality of life, multivariable regression analysis performed given the results of univariate regression. The variables of age, employment status, the level of education, smoking cigarette, the history of

**Table 2: Mean±standard deviation of Sexual Quality of Life Questionnaire-Male and General Health Questionnaire-28 based on demographic characteristics and associated with participants' health problems**

Variables	Modes	SQOL-M, mean±SD	P	GHQ-28, mean±SD	P
Age (years old)	60-69	41.4±16.9	0.001	21.9±10.4	0.052
	70-79	39.1±14.2		20.4±8.3	
	>80	37.9±14.1		18.8±9.6	
Employment status	Unemployed	40.8±15.5	0.001	24.01±9.7	0.001
	Employed	47.5±14.3		18.6±9.5	
	Retired	48.2±14.05		17.8±9.3	
Education status (years)	<12	44.7±14.8	0.012	19.7±10.03	0.026
	>12	52.0±12.8		17.9±8.7	
Income adequacy	Adequate	49.0±14.4	0.449	15.4±7.6	0.103
	Inadequate	46.4±14.7		19.6±9.8	
Kind of life	Accompanying spouse	44.9±15.9	0.062	20.6±10.09	0.269
	Accompanying spouse and child	47.0±14.2		18.6±9.1	
Smoking cigarette	Yes	44.1±16.3	0.011	21.04±9.1	0.994
	No	47.3±14.1		18.7±9.8	
Sleep problems	Yes	41.3±15.3	0.008	24.7±10.3	0.001
	No	49.8±13.2		15.9±7.6	
Hyper tension	Yes	43.7±14.6	0.800	22.03±9.1	0.912
	No	47.9±14.5		18.0±9.7	
Diabetes mellitus	Yes	41.06±14.3	0.907	20.2±8.07	0.172
	No	47.5±14.5		19.1±9.9	
Coronary disease	Yes	44.3±14.7	0.800	21.9±10.4	0.155
	No	47.3±14.6		18.4±9.3	
Skeletal problems	Yes	44.5±14.5	0.790	20.2±8.7	0.127
	No	48.6±14.5		18.3±10.5	
Prostatic hypertrophy	Yes	42.4±15.7	0.008	22.3±10.05	0.021
	No	48.8±13.5		17.6±9.1	

SQOL-M=Sexual Quality of Life Questionnaire-Male, GHQ-28=General Health Questionnaire-28, SD=Standard deviation

**Table 3: Correlation between questionnaire dimensions of General Health Questionnaire-28 and (Sexual Quality of Life Questionnaire-Male)**

	Somatic symptoms	Anxiety and insomnia	Social functioning	Depression	General health	Sexual quality of life
Somatic symptoms		0.55*	0.53*	0.49*	0.82*	-0.33*
Anxiety and insomnia	0.001#		0.001#	0.001#	0.001#	0.001#
Social functioning			0.52*	0.43*	0.80*	-0.26*
Depression			0.001#	0.001#	0.001#	0.001#
General health				0.57*	0.81*	-0.39*
				0.001#	0.001#	0.001#
					0.75*	-0.33*
					0.001#	0.001#
						-0.41*
						0.001#

\*r, #P<0.001

prostatic hypertrophy, and sleep problems predicted the sexual quality of life significantly in the older men ( $F(7,361) = 18.02, P < 0.001, R^2 = 0.513$ ).

According to multivariable regression using the forward method, the most important predictors of sexual quality of life in the older adults were general health status, age, education status, and sleep problems, respectively, meaning that with an increase in the score of general health and age per year, the score of sexual quality of life in the older people decreases to 0.49 and 0.35 score, respectively ( $P < 0.001$ ). Having the level of education more than 12 years led to an increase of 4.69 scores in the sexual quality of life in the elderly ( $P = 0.003$ ). By contrast, the presence of sleep problems resulted in a decline of 3.50 score in the elderly's the sexual quality of life ( $P = 0.02$ ). Having prostate hypertrophy had a direct effect on the sexual quality of life in older people, but this was not statistically significant ( $P = 0.20$ ) [Table 4].

Figure 1 demonstrates that an increase in the level of education ( $R^2 = 0.02$ ) lead to increased sexual quality of life in participants, while an increase in the total score of general health ( $R^2 = 0.1$ ), age ( $R^2 = 0.04$ ), and sleep problems ( $R^2 = 0.01$ ) result in decreased sexual quality of life.

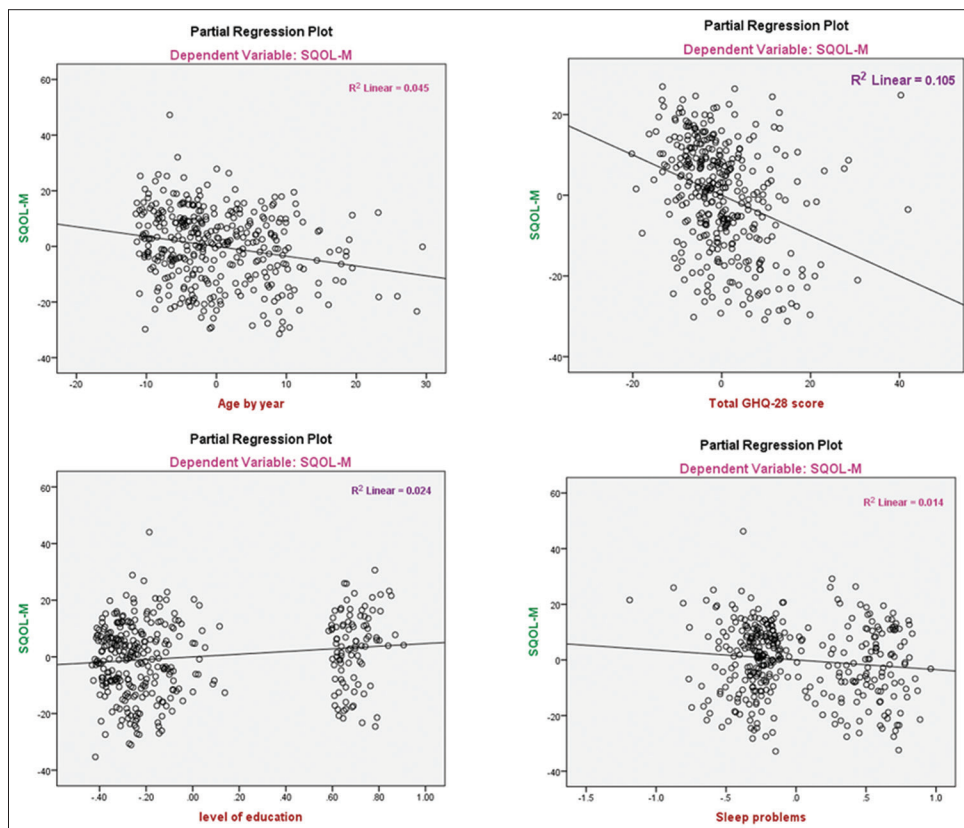
## Discussion

The objective of this study was to investigate the sexual quality of life and its relationship with general health in older men in the west of Iran. The results showed that older men had a moderate sexual quality of life and general health. General health, age, education status, and sleep problems were the most important predictor variables in the older men's sexual quality of life. In our study, higher general health and a higher level of education were the predictors of increasing the sexual quality of life, while sleep problems and increased age were the predictors of decreasing the sexual quality of life in older men. Rezaei *et al.* (2018) showed that increasing age, lower education, having depression, and

**Table 4: Predictors variables of participants' sexual quality of life with regards to the results of the multivariable regression using the forward method**

Model	$\beta$	SD	t	P	95% CI	
					Lower bound	Upper bound
Base value	76.3	6.68	11.17	0.001	62.87	89.73
General health	-0.49	0.07	-4.46	0.001	-0.65	-0.34
Age	-0.35	0.08	-4.10	0.001	-0.52	-0.18
The level of education	4.69	1.57	2.98	0.003	1.60	7.78
Sleep problems	-3.50	1.53	2.27	0.02	-6.52	-0.47

CI=Confidence interval, SD=Standard deviation



**Figure 1:** The associations of predictor variables of the older adults' sexual quality of life (general health, age, level of education, and sleep problems)

incontinence were associated with increased symptoms of andropause in older men, which is in line with our results.<sup>[6]</sup>

A study by Lew-Starowicz and Rola showed that the mean score of sexual function is correlated with the score of sexual quality of life, and poor sexual function affects substantially the sexual quality of life,<sup>[17]</sup> which was in accordance with our results.

The results of our study showed that the general health status of older adults was at a moderate level. These results were in line with the studies of Barati *et al.* in Hamedan and Nejati *et al.* in Qom.<sup>[34,35]</sup> Moreover, in this study, one of the most critical predictor factors in older men's sexual quality of life was general health. These results were in agreement with Flynn *et al.*, study that reported participants in excellent health had significantly higher sexual satisfaction than those in fair or poor health.<sup>[23]</sup> Besides, our findings were in conformity with a study by Rezaei *et al.*, (2018) that found a significant association between the eight aspects of health-related quality of life and the andropause severity in the older men.<sup>[6]</sup> Smith *et al.* showed that having realistic physical, psychological expectations, and mutual interactions in sexual intercourse among couples lead to sexual satisfaction.<sup>[36]</sup> It can be concluded that maintaining and promoting physical and mental health and managing stress and tension in the older men can play an essential role in life satisfaction and an improvement in an emotional relationship and sexual quality of life.

Based on this survey, increased age, especially in the eighth decades and above, had a considerable impact on decreasing sexual quality of life in the older men. This result was in accordance with the study by Forbes *et al.* that reported sexual quality of life and sexual functioning decrease with increasing age.<sup>[20]</sup> Since the elderly have a high age, we are expecting that sexual desire, sexual activity, and sexual quality of life gradually decrease. It can be attributed to the physiology of the body, atrophy, and losing the sexual partner.

The results showed that by increasing the level of education, the sexual quality of life in older men is improved, which is in line with the study by Forbes *et al.* that showed the level of education is useful in sexual activity knowledge, and by increasing level of education, individuals experience lower sexual dysfunction.<sup>[20]</sup> It can be inferred that sexual activity is training-oriented, and if it is correct principles are observed, high sexual quality of life will be obtained, but it requires more research.

The results showed that sleep problems give rise to decreased sexual quality of life in older people. These results were compatible with the study by Smith *et al.* that

reported a significant association between sleep quality and sexual function in men aged >50 years.<sup>[24]</sup> Besides, our results were in line with a study by Charandabi *et al.*, that showed sleep dysfunction leads to a decline in five-dimension men's sexual function.<sup>[21]</sup>

In general, the findings of this study showed that sexual quality of life and general health were two important issues in old age, and there was a mutual connection between the sexual quality of life and general health. In a study by Naeinian *et al.*, people with sexual dysfunction had lower general health in somatic, social, and mental dimensions.<sup>[37]</sup> A survey by Lee *et al.* showed that lower health status was associated with lower sexual activity and a higher prevalence of sexual function problems, especially among older men.<sup>[38]</sup>

Given the study results, it is suggested that country health managers in educational programs pay more attention to the importance of sexual quality of life and its relationship with older adults' general health. Given that sexual issues are among those issues that older people are less likely to talk regarding with health professionals and counselors, these programs should be more embedded in the educational programs of comprehensive health center. In addition, since health-care professionals in health centers in Iran have little education and knowledge concerning sexual health and its importance, this concept should be taught in retraining programs.

### Limitations

Despite the strength of this study, it also has some limitations. First, this was a descriptive study, and the older men's quality of life examined at a specific point in time. Thereby, conducting longitudinal studies would result in more knowledge regarding factors influencing older men's sexual quality of life. Second, this study was done in one of the western cities of Iran, which may not represent the entire population of older men's quality of life. Hence, it is suggested similar studies should be done in other parts of Iran. Owing to collecting data by self-reported method, and feeling of ashamed by men who have sexual problems in the studied city, our findings likely represent an underestimate of the true extent of sexual problems.

Future research would benefit from the use of a larger sample and also other research methodology, not only to verify these findings but also to assess the impact of other demographic and cultural variables that may influence older men's sexual quality of life.

### Conclusion

The results of this study highlighted the critical factors influencing older men's sexual quality of life. The results

showed that the sexual quality of life in the older men was at a moderate level. Moreover, this study revealed the predictor factors of men's sexual quality of life, such as general health status, age, the level of education, and sleep problems. However, further studies should be conducted in the future to acknowledge the effect of these factors on men's sexual quality of life and other factors influencing.

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### Conflicts of interest

There are no conflicts of interest.

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