Original Article

Studying the relation between quality of life and mental distresses among Kurd seniors living in Saghez, Iran

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ABSTRACT

Background & Aim: Quality of life indicates individual's level of satisfaction or dissatisfaction with different aspects of life. One of the aspects that could affect aspects of life is mental distress. The aim of this study was to study the relation between quality of life and mental distresses Kurd seniors living in Saghez city, Iran.

Methods & Materials: This research was a correlation study conducted in 2015. Samples were 300 seniors who lived in Saghez and were selected through multi-stage sampling. Data were collected using 36-Item Short Form Health Survey and Depression Anxiety Stress Scale - 21. Data were analyzed using PASW software and through descriptive statistics, independent t-test, Pearson correlation coefficient, and multiple regression analysis.

Results: The results showed a negative significant correlation between the quality of life and depression (r = 0.681), anxiety (r = 0.690), stress (r = 0.586), and age (r = 0.296) (P = 0.001). Results of step-wise regression analysis for predicting seniors' quality of life based on their mental distresses showed that depression, anxiety, stress, and age, all together, determined 74.5% of changes in quality of life in seniors. Anxiety by predicting 69% of the variance of seniors' quality of life was the most powerful predictor.

Conclusion: Results of the present study showed a relation between quality of life and depression, anxiety, and stress. Appropriate diagnosis and management of mental distresses not only could reduce the time of suffering from these problems, but also could improve the quality of life in seniors.

Introduction

Advances in medical knowledge, technologies of today's world and life expectancy have led to an increase in senior population of the world (1).

According to the statistics by the World Health Organization, currently about 600 million elderly are living worldwide, and this number would be doubled by 2025 (2). According to the census that was conducted in 2011 in Iran, more than 8% of the Iranian population is included seniors and it is predicted that in the next 40 years, the elderly population of Iran would surpass the average growth of the elderly population in the world (3). Increase in life expectancy has increased the prevalence of chronic

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diseases. The main challenge of the present century is to have a high-quality life, not just living; in other words, it is not just the increase in life expectancy of the elderly that must be attended, but the quality of their lives must also be improved (4, 5).

The quality of life means individual's perception of living conditions in the form of culture and values of the society and in order to reach individual's goals, standards, and interests (6). Quality of life is the level of satisfaction or dissatisfaction that people would feel with different aspects of their lives; in simple words, quality of life is providing the necessary conditions for happiness and satisfaction (7). Cultural norms and values would affect the quality of life; meaning that quality of life is a dynamic structure that varies between different people and cultures and has different characteristics at different stages of life (8). For example, in Botswana (an African country) being able to carry water and heavy objects indicates the high level of functional ability in the elderly, but in Hong Kong, the functional ability of the elderly is indicated by being able to work and perform the legal activities (9).

Aging would increase the chance of chronic mental and physical diseases. Shoja et al. (10) have mentioned that 80% of the elderly suffer from at least one chronic disease and them, 40% would experience the limitations that are caused by the disease which would affect their quality of life. Mental distresses are one of the chronic problems that could affect the quality of life in seniors. Considering that the elderly would experience complicated situations and many physical, mental and social problems, many of them could experience mental distresses (11). Mental distresses would indicate emotional state and symptoms of depression and anxiety (12). Mental and behavioral disorders, after damages, are accounted for most of the diseases in Iran. Loneliness, losing relatives, being abused and financial problems could cause symptoms of depression in the elderly (13). 27-48% of the elderly suffer from mental distresses (11). Results of a study by Etemadi and Ahmadi (14) on seniors of Tehran showed that the rate of depression among them was 32.5%, anxiety was 18.1%, somatic disorders was 27.5%, and obsessive disorders was 19.1%.

Saghez is the most northern city in Kurdistan province, Iran, which had a population of 140 thousand according to the census of 2011 and is the se-

cond populated city of Kurdistan after Sanandaj. Most of the citizens of Saghez are Sunni Shafi'i Muslims and their language is Kurdish Sorani. The elderly population of Saghez is 16572 which 9902 of them lives in the city and the rest live in rural areas (15). Reviewing the studies revealed a lack of studies about the relation between quality of life and mental distresses and no studies have been exclusively conducted about the quality of life and mental distresses of Kurd seniors. The aim of the present study was to determine the correlation between quality of life, and mental distresses in Kurd seniors living Saghez.

Methods

This research was a correlation study that was conducted during the second half 1394 (last months of 2015 and first months of 2016) on the elderly population of Saghez. From the mentioned population, considering the aim of the study and based on the formula

$$n = \frac{z^2 + \frac{3}{4}\ln(\frac{1+r}{1-r})}{\frac{3}{4}\ln(\frac{1+r}{1-r})}$$

and also considering a 99% confidence interval and a correlation coefficient of r = 0.100, the sample size was calculated to be 300. Multistage sampling was used for this study where four centers were randomly selected from 11 active centers of the city, and convenient sampling was conducted at each center. Data were collected through the demographic characteristics questionnaire, Depression, Anxiety, Stress Scale (DASS-21) and 36-Item Short-Form Health Survey (SF-36). The structure of mental distress has no absolute definition and involves a range of mild to severe disorders (11), therefore, in this study, for measurement of mental distresses, DASS-21 was used which includes different aspects of mental-psychological problems. DASS-21 was developed by Lovibond and Lovibond in 1995. This 21-question from would evaluate the each of the depression, anxiety and stress structures through seven questions. The scoring method of the questionnaire is from 0 (never) to 3 (always) and the range of scores for each part is from 0 to 21. Higher scores indicate more mental distress (16).

SF-36 is the most common tool that is used for evaluating the quality of life. SF-36 was originally developed by the Medical Outcomes Study and includes 36 questions in the physical and mental aspects which evaluated eight subscales of physical activities, physical role, physical pain, social activities, emotional role, general health, vitality, and mental health. Each subscale contains 2-10 questions. The questionnaire could be scored from 0 to 100, and higher scores indicate better quality of life. Validity of the questionnaire was first evaluated by Montazeri and its reliability coefficients for eight subscales were from 0.77 to 0.95 (except for vitality which was 0.65). This Persian version with high validity is appropriate for measuring the quality of life in general population. In this study, the validity of tools was measured using content validity. The reliability of DASS-21 and SF-36 according to Chronbach's α were 0.78 and 0.71 respectively.

After explaining the goals of the study and taking participants' consent, the unnamed questionnaires were distributed among the participants. This study was approved by ethics committee of Kurdistan University of Medical Sciences by No. 94/329. Data were analyzed using SPSS software (version 18; SPSS Inc., Chicago, IL, USA) and through descriptive statistical tests (percent, frequency, central indicators and dispersion), Kolmogorov–Smirnov test (for evaluating the normality of the data), independent t-test (for comparing quantitative variables between two groups), Pearson correlation coefficient and stepwise linear regression. The significant level was set at $P < 0.050$.

Results

Participants of this study were 300 seniors with an average age of 69.5 ± 9.2 years. 158 of the samples (52.7%) were female. Regarding their educational level, 193 participants (64.3%) were illiterate.

Demographic characteristics of participants are shown in table 1. Results showed that the mean score of quality of life in seniors was 49.5 ± 15.8. The mean score of quality of life in women was significantly lower than men (46.8 ± 15.0 vs. 52.5 ± 16.2, $P < 0.002$). The mean score of depression was 9.3 ± 4.9; anxiety was 8.9 ± 4.8 and stress

was 10.7 ± 4.8. Regarding mental distresses also, the mean scores of depression (10.0 ± 4.6 vs. 8.6 ± 5.1, $P = 0.010$) and anxiety (9.7 ± 4.7 vs. 7.9 ± 4.9, $P = 0.001$) was significantly higher in women than men. There was no significant difference between men and women regarding their mean score of stress and their mean of age. Based on their education, results showed that the mean score of quality of life was significantly higher among literate seniors than illiterate ones; in other words, literate seniors had a better quality of life than illiterate seniors (54.4 ± 15.9 vs. 46.7 ± 15.2, $P = 0.001$). Literate elderlies compared to their illiterate peers had lower scores of depression (7.9 ± 5 vs. 10.1 ± 4.6), stress (9.3 ± 4.7 vs. 11.5 ± 4.7), and anxiety (7.1 ± 4.6 vs. 9.8 ± 4.7) ($P = 0.001$).

Table 1. Demographic characteristics of the studied elderlies

Variable	Frequency (%)
Sex	
Male	142 (47.3)
Female	158 (52.7)
Education	
Literate	107 (35.7)
Illiterate	193 (64.3)
Age	
Under 70-year-old	233 (77.7)
Above 70-year-old	67 (22.3)

Table 2 displays that quality of life had a negative significant correlation with depression ($r = 0.681$), anxiety ($r = 0.690$), and stress ($r = 0.586$) ($P = 0.001$); in other words, the higher the scores of depression, anxiety and stress in the elderly, the lower their quality of life. There was a positive significant correlation between age and mental distresses meaning that mental distresses would increase by aging ($P = 0.001$). Furthermore, the quality of life in the elderly decreased by aging ($P = 0.001$).

For evaluating the effect of each predicting variables of mental distress, age, and sex on the ground variable (quality of life), stepwise regression analysis was used. Results of variance analysis and statistical characteristics of step-wise regression are shown in table 3.

Table 2. Correlation coefficients between quality of life and mental distresses

Variable	Mean ± SD	Stress	Anxiety	Depression	Age	Quality of life
Stress	10.7 ± 4.8	-	-	-	-	-
Anxiety	8.9 ± 4.8	0.674	-	-	-	-
Depression	9.3 ± 4.9	0.668	0.742	-	-	-
Age	69.5 ± 9.2	0.198	0.294	0.253	-	-
Quality of life	49.5 ± 15.8	−0.586	−0.690	−0.681	−0.296	-

P = 0.0001; SD: Standard deviation

As it is observed, the variable of sex has not been included in models. Furthermore at the first step, the variable of anxiety, due to its highest correlation coefficient with dependent variable was considered in the regression equation which could predict 47.6% of the quality of life in Kurd seniors. At the next step depression (along with anxiety) determined 54% of the quality of life in the elderly. In the third and fourth steps, variables of age and stress (in the presence of anxiety and depression) could predict 55.4% of participants' quality of life.

Discussion

This study was aimed to determine the relation between quality of life and mental distresses. Results showed a negative significant correlation between quality of life and depression, anxiety and stress in the elderly and in general, mental distresses could predict about 54.7% of quality of life in the elderly. In a study by Borowiak and Kostka (17) that was conducted on seniors who lived at nursing houses and among the society, depression was the most powerful predictor of quality of life. Results of a prospective study by Benyamini et al. (18) showed that depression and anxiety would decrease quality of life (P < 0.050). In this study also anxiety and depression were the most powerful predictors of quality of life in the elderly.

Results of the study by Arrieta et al. (16) which found a relation between quality of life in cancer patients and depression and anxiety was in line with the results of the present study. Also, Cully et al. (19) in a study evaluated the predictors of quality of life in old veterans with cardiovascular failure. Results showed that depression (P = 0.001), severity of the disease (P = 0.003) and age (P = 0.010) were the variables that could predict the quality of life while anxiety had no strength in predicting quality of life. In the study of Najafi et al. (13), the quality of life was better among men than women, and 50.2% of the elderly had mental disorders where the prevalence of these problems among women was higher than men (61.2% vs. 40.1%, P < 0.010). All of the findings of the Najafi et al. study (13) were in line with the results of the present study. Better quality of life and lower rate of distress among men could be related their wide range of communications outside the home. The quality of life was higher among literate elderlies compared to illiterates which the results of Olivares et al. (20) and Mohagheghi Kamal et al. (21) have also confirmed this finding.

Table 3. Variance analysis for validating the regression equation of study variables

Model	Source of changes	SS	MS	df	F	P	R	R²	Adjusted R²
Anxiety	Regression	35,968.532	35,968.532	1	270.805	0.001	0.690	0.476	0.474
	Residual	39,580.531	147.967	298					
	Sum	75,549.063	-	299					
Anxiety and depression	Regression	40,800.576	20,400.288	2	174.364	0.001	0.735	0.540	0.537
	Residual	39,580.531	116.998	297					
	Sum	75,549.063	-	299					
Anxiety, depression and age	Regression	41,330.412	13,776.804	3	119.173	0.001	0.740	0.547	0.542
	Residual	34,218.652	115.604	296					
	Sum	75,549.063	-	299					
Anxiety, depression, age and stress	Regression	41,880.330	19,470.082	4	119.166	0.001	0.745	0.554	0.548
	Residual	33,668.734	114.131	295					
	Sum	75,549.063	-	299					

SS: Sum of squares; MS: Mean square

The most important limitation of this study was that all of the seniors with or without underlying diseases were enrolled in this study while having underlying diseases could have adverse effects on their quality of life. On the other hand, the greatest advantage of this study was that it was exclusively conducted on Kurd seniors. It is recommended that further studies should evaluate the quality of life among other age groups of Kurd citizens, because for providing any health services and planning any health programs, it is necessary to have knowledge about different ethnicities and cultures; the aim of this study was also to cover this shortcoming.

Mental distresses could be treated. Appropriate diagnosis and management of mental distresses not only shortens the time of suffering from them, but also improve the quality of life in patients.

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Conflict of interest

The authors declare no conflict of interest.

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