

Evaluation of Effective Indexes on Quality of Life Related to Health in Western Iran in 2013

Meysam Behzadifar,¹ Masoud Behzadifar,² Mandana Saroukhani,³ Kourosh Sayehmiri,^{4,*} and Ali Delpisheh⁵

¹Department of Epidemiology, Faculty of Health and Nutritional, Lorestan University of Medical Sciences, Khorramabad, IR Iran

²Health Management and Economics Research Center, Iran University of Medical Sciences, Tehran, Iran

³Prevention of Psychosocial Injuries Research Center, Ilam University of Medical Sciences, Ilam, IR Iran

⁴Department of Social Medicine, Faculty of Medicine, Ilam University of Medical Sciences, Ilam, IR Iran

⁵Department of Epidemiology, Faculty of Medicine, Ilam University of Medical Sciences, Ilam, IR Iran

*Corresponding author: Kourosh Sayehmiri, Department of Social Medicine, Faculty of Medicine, Ilam University of Medical Sciences, Ilam, IR Iran. Tel: +98-9183410782, Fax: +98-8432227140, E-mail: sayehmiri@razi.tums.ac.ir

Received 2014 September 22; Revised 2015 March 13; Accepted 2015 April 20.

Abstract

Background: Today, indexes regarding longevity and life expectancy have increased; the most important issue now is how to spend time loving or in other words quality of life.

Objectives: This study was aimed to evaluate effective indexes on quality of life related to health in western Iran in 2013.

Materials and Methods: In this cross-sectional research, 918 families were selected among different counties of Ilam Province by multi-stage clustering sampling. The data collection instrument was a questionnaire used to measure the general economic and quality of life: the SF-36 health status questionnaire. Data were analyzed using multivariate regression models.

Results: The mean age of the study participants was 32.97 ± 9.5 years, and the mean score for their quality of life was 61.74 ± 12.31 . There was a significant statistical relationship between people's quality of life and their marital status, province of residency, income, economic situation, and life satisfaction ($P < 0.05$). Also, there was a significant and inverse correlation between people's age and quality of life ($r = 0.21$), physical health summary ($r = 0.21$) and mental health summary ($r = 0.08$).

Conclusions: The mean quality of life among the individuals studied was in the middle level, however, it is important to consider the different dimensions of their living situations, such as economic protections, social cooperation, ability to present suitable behaviors to solve problems, and living situation, especially among deprived people.

Keywords: Quality of Life, Economic Factors, Health, Iran

1. Background

Today, indexes regarding longevity and life expectancy have increased; the most important issue now is how to spend time loving or in other words quality of life. Some scientists and officials have taken this subject into consideration (1). Quality of life is considered as a basic index for individuals and it is used to measure different dimensions of life, such as daily activities and physiologic aspects, which are considered of special importance for quality of life (2). Quality of life can be defined as an individual's perception of their life achievements in the area of their value system, and the cultural background that they live in with its relationship to their objectives, expectations, standards, and anxieties. This concept involves a person's physical health, psychological condition, level of independence, social communication, and personal ideas (3). Qual-

ity of life involves multiple dimensions and is a complex concept which is influenced by factors, such as time, place, social, and personal values, and thus, it has various definitions for individuals and different groups. Some people have defined quality of life as the ability to exist in an area and some others have interpreted it as a measurement Attractiveness rate, while other people have defined it as public welfare, social welfare, gladness, satisfaction, and others (4). Nowadays a population's quality of life is considered as a framework for providing services for the improvement of people's quality of life, and it is expressed as the most important objective of healthcare interventions (5). Offering definitions about quality of life are beneficial for use in healthcare protection and can be divided into five scopes which are: normal life, happiness and satisfaction, access to personal objectives, benefit to the society and natural ability rate. In other words, quality of life can be

considered as a relationship between the individual health condition, on the one hand, and the ability to follow life objectives on the other hand. Therefore, it seems that satisfying human needs and basic priorities have important roles in the quality of life (6). Quality of life is a very important issue, which was first taken into consideration for Technologies development development and industrialization processes in many countries, Further studies were undertaken in this field, which is important because of the increasing importance of people's quality of life regarding the monitoring of public policy and its role as a beneficial tool in health planning and management (7-13).

The concept quality of life has been studied in the social sciences such as sociology, philosophy, and also the medical sciences for many years (14). Social characteristics are used to define the concept of quality of life in the social sciences and many discussions have been developed about the concepts of how to live well in the fields of philosophy and religion. Since 1940, this concept has also been used in medical research, such as cancer research, to measure a patient's quality of life. Quality of life has also been considered in the field of medicine (15-22). For instance, studies have been conducted on the quality of life of heart patients, which have shown that quality of life among these patients has decreased (21, 23-27). The results of a study by Nikpor et al. showed that the mean quality of life for older people in the west of Tehran is in the middle and there are significant relationships between variables such as sex, level of education, economic condition, and current health condition (28). By considering these studies the world health organization (WHO) has suggested that promotion of people's quality of life is one of the duties of healthcare centers.

2. Objectives

This study aimed to evaluate effective indexes on quality of life related to health in western Iran.

3. Materials and Methods

In this cross-sectional research study, data was collected from 918 families in 2013 (February 2013 to May 2013). Samples for the study were selected from different cities of Ilam province. The sample size was computed with $\alpha = 0.05$, $\beta = 0.10$, $r = 0.29$ and using the equation (Equation 1):

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

The families economic and general condition was determined using questions about demographics and job situations, income and living costs on the questionnaire. Responses were based on a Likert scale format. A SF-36 questionnaire was used for measurement of people's quality of life related to health. The validity and consistency of the instrument has been measured among different communities (29, 30), and the validity test for the Persian copy has been performed in Iran (31, 32). Cronbach's alpha coefficient of this questionnaire used in the present research was 0.81.

This questionnaire is one of most important questionnaires used for evaluating quality of life related to health among healthy individuals and patients. It evaluates quality of life related to health in eight scopes, which includes questions as follows: 10 questions about physical function, four questions about limitation due to physical problems, three questions about limitations due to emotional problems, two questions about physical pain and its effect on daily activity, five questions about people's perception of their public health, two questions about social function, four question about exhilaration, and five questions concerning people's mental health. This tool involves two abbreviated components, which are obtained by combining the scales as follows: the abbreviation of physical health evaluation includes physical function, physical pain, and limitations due to physical problems, as well as public health; the abbreviation of mental health includes social function, mental health, exhilaration, and limitation due to emotional problems. To score the questionnaire in each dimension, first, the questions are scored according to the questionnaire directions and then the sample's score is summed up and related to a scale from zero (bad situation) to 100 (best situation). The dependent variable (quality of life grade) should become a dual variable for the logistical regression. Therefore, scores lower than the mean (61.71) were defined as undesirable life quality and scores higher than the mean were defined as favorable life quality. Data were analyzed by using SPSS version 21 software and the Smirnov-Kolmogorov test, t-test, ANOVA and Pearson correlation coefficients. A P value lower than 0.05 was considered significant.

4. Results

In this study, 918 householders with a mean age 32.97 ± 9.5 and age range 18-70 years were investigated. The highest mean quality of life was associated with the age group below 25 years. Based on Table 1, the mean quality of life for study participants was 61.74 ± 12.31 (out of 100) and among men and women was 61.44 ± 12.38 and 61.97 ± 12.26 , respectively. The mean summary measure of physical

health and summary measure of mental health were 64.06 ± 14.04 and 56.66 ± 11.86 , respectively (Table 1).

The gender of a majority of the people studied were women (56.1%), by marital status most were married (78.8%), and by residency most resided in the city (81%). In terms of job condition, half of the participants (49.8%) were employed, followed by the unemployed (47.7%), and retired (2.5%). In terms of education, half of the people studied had bachelor's degrees (41.1%), followed by high school education (19.6%), associate's degree (19.3%), master's degree and higher (7.9%), elementary (5.4%), guidance (4.8%), and illiterate (2%). Based on a t-test, the highest mean quality of life was associated with women (61.97%), those married (64.44%), employed (62.35%), city residents (64.39%), people with diploma or higher (61.99%), and people who had a personal house (61.91%). There was a significant relationship between their marital status and residency ($P < 0.01$) (Table 2).

Also, there was a significant statistical relationship between quality of life, measured by the ANOVA test, with variables such as monthly income ($P < 0.01$), economic situation ($P < 0.001$), and life satisfaction ($P < 0.001$), so that mean quality of life was increased by increasing monthly income, improving the economic situation, and life satisfaction (Table 3).

The highest mean quality of life related to health was associated with the Sirvan province (70.11), followed by Abadan (65.74), Dareh shahr (64.65), Ivan (64.11), Malekshahi (62.34), Ilam (62.17), Dehloran (61.39), Chardavol (57.84), and Mehran (42.75). There was a significant statistical relationship between these variables ($P < 0.001$) (Table 4).

There was a significant and inverse statistical correlation between age and quality of life ($r = 0.21$), physical health summary ($r = 0.21$), and mental health summary ($r = 0.08$). Thus, increased age caused a decrease in quality of life, physical, and mental health summaries. Also, a significant and direct statistical correlation existed between quality of life and physical health summary ($r = 0.91$), and mental health summary ($r = 0.69$). Thus, an increase in quality of life caused an increase in physical and mental health summaries (Table 5).

5. Discussion

The world health organization (WHO) defines quality of life as an individual's perception of their living situation due to their value system and the culture in which they live, as well as their relationship with their favorable objects, expectations, standards, and priorities. This definition involves a broad concept influenced by the individual's mental and physical health condition, level of independence, social communication, and personal ideas (33).

In the present research, based on the t-test, the highest mean quality of life was among married people (64.44) and based on the city of residency (64.39), and there was a significant relationship with both variables. In a study by Hadi et al. (34), it was observed that the single group had gained a high score in the dimensions of physical, public health, exhilaration, social function, and limitations due to emotional problems, compared with married, divorced, and widowed groups. In addition, the married group gained a high score in the dimensions of physical problems and function, public health, exhilaration, and social function compared with singles. Also, in a study by Habibi et al. (35) there was not a significant relationship between quality of life and marital status, however, Vahdaninia et al. in one of their studies, concluded that mean quality of life among married people was higher than the groups of single, divorced, or widowed (36). A similar result was obtained in a study in Korea (37). As isolation is one of the potential risks that threaten an elder's health, it is necessary to consider people's potency and protective environment to counter this factor. In studies by Pour Tahamtan et al. (14) and Goshtasbi et al. (38), health level and quality of life in urban areas was higher than in rural areas, which is in agreement with the present research. This can be explained by unequal hygienic situations, residencies, and the differences between rural and urban facilities.

Also, there was a significant statistical relationship between quality of life as measured by the ANOVA test, with monthly income ($P < 0.01$), economic situation ($P < 0.001$), and life satisfaction ($P < 0.001$). Studies performed by Haas et al. in San Francisco in 2005 (39) and Schultz et al. (40), demonstrated that there was a significant relationship between an unsuitable financial situation in order to provide food and housing with their health condition and lower quality of life, whereas, this relationship was not observed in studies by Mir et al. (41). Also, in a study by Abbaszadeh et al. there was a significant relationship between quality of life and life satisfaction. Thus, those who were dissatisfied with their living situation had a higher chance of having a lower quality of life (42). The significant relationship between the two factors indicated that people's positive attitudes to their life can have an effect on and increase quality of life. Zillich et al. in their studies, showed that deprived people's quality of life was lower than ordinal people's, based on economic situation, and there was a significant relationship between the two variables (43).

According to the results of this research, increased age also causes a decreased quality of life, decreased physical and mental health summaries and showed there was a significant and direct statistical correlation between quality of life with physical health summary ($r = 0.91$) and mental health summary ($r = 0.69$). In 2006, Albou Kordi et al.

Table 1. Mean and STD Subscale - Quality of Life Related to Health

Variable	Mean \pm SD
Physical functioning	73.34 \pm 28.08
Limitations due to physical problems	52.41 \pm 35.78
Limitations due to emotional problems	50.86 \pm 39.01
Mental Health	54.73 \pm 11.03
Exhilaration	52.31 \pm 11.27
Social functioning	68.75 \pm 20.22
Physical pain	70.17 \pm 21.24
Public health	60.21 \pm 17.59
Physical health Summary	64.06 \pm 14.04
Mental health Summary	56.66 \pm 11.86
Total score of quality of life	61.74 \pm 12.31

Table 2. Relationship of Quality of Life to Health Demographic and Economic Variables Based on T-Test^a

Variable	Quality of Life	P Value
Sex		0.54
Male	61.44 \pm 12.38	
Female	61.97 \pm 12.26	
Marital Status		0.001
Single	60.59 \pm 12.35	
Married	64.44 \pm 11.68	
Unemployed	61.15 \pm 12.47	
Job Status		0.22
Employed	62.35 \pm 12.15	
Retired	58.35 \pm 11.2	
Private House		0.68
Yes	61.91 \pm 11.88	
No	61.55 \pm 12.9	
Residence		0.001
City	64.39 \pm 11.44	
Village	60.97 \pm 12.36	
Education		0.39
No Diploma	61.18 \pm 12.4	
High School Diploma	61.99 \pm 12.33	

^aValues are expressed as mean \pm SD.

found similar results in their research on Shahinshahr elders (44). In 2008, a study by Bazrafshan et al. found this result in Shiraz Province, where general quality of life and its dimensions were decreased by increasing age (45). In studies by Mir et al. (41), there was a significant and re-

verse correlation among age and quality of life and physical health summary ($P < 0.01$, $r = -0.87$), so that the young people had a better physical dimension, but there was a significant and direct correlation between age and mental health summary ($P < 0.05$, $r = 0.45$). As expected, increased

Table 3. Mean and STD of Quality of Life Related to Health, Based on Demographics and Economics^{a,b}

Variable	Quality of Life	P Value
Age		0.000
< 25	65.84 ± 11.83	
25 - 29	62.66 ± 12.42	
30 - 34	62.22 ± 12.02	
35 - 39	60.005 ± 13.18	
40 - 44	60.28 ± 12.72	
45 - 49	59.32 ± 10.76	
> 50	55.49 ± 13.17	
Income, Thousands of Tomans		0.008
Less than 500	59.29 ± 11.94	
500 - 750	63.5 ± 10.91	
750 - 1 million	64.04 ± 11.61	
More than 1 million	64.72 ± 9.49	
Bad	58.64 ± 11.61	
Economic Situation		0.000
Average	63.67 ± 10.59	
Well	61.06 ± 14.92	
Life Satisfaction		0.000
Bad	56.61 ± 11.63	
Average	61.43 ± 10.87	
Well	63.62 ± 13.18	

^aValues are expressed as mean ± SD.^bTested by ANOVA.**Table 4.** Mean and STD of Quality of Life Related to Health Based on Residence City^{a,b}

Variable	Quality of Life	P Value
Residence City		0.000
Ilam	62.17 ± 11.8	
Eyvan	64.11 ± 9.37	
Sirvan	70.11 ± 10.98	
Chardavol	57.84 ± 13.42	
Mehran	42.75 ± 11.6	
Dareh shahr	64.65 ± 11.41	
Dehloran	61.39 ± 10.71	
Malekshahi	62.34 ± 13.29	
Abdanan	65.74 ± 10.01	

^aValues are expressed as mean ± SD.^bTested by ANOVA.

age causes a decrease in quality of life in both dimensions (mental and physical), which may partly be a result of an elder's physical limitations and may partly be associated with a person's mental and emotional situation.

In regards to the mean quality of life among the studied individuals the measurement was in middle, however, it is important to consider the different dimensions of the

study subjects' living, such as economic protections, social cooperation, ability to provide suitable behaviors to problems, and consideration of the facilitation of living affairs, especially among people in deprived areas.

Table 5. Correlation Between Age and Quality of Life, Physical Health Summary and Mental Health Summary

	Age	Quality of Life	Physical Health Summary	Mental Health Summary
Age	1			
Quality of Life	-0.21 ^a	1		
Physical Health Summary	-0.21 ^a	0.91 ^a	1	
Mental Health Summary	-0.08 ^b	0.69 ^a	0.51 ^a	1

^aSignificant at less than 0.01.^bSignificant at a level of less than 0.05.

Acknowledgments

We sincerely thank the prevention of psychosocial injuries, research center, Ilam University of Medical Sciences, Ilam, Iran for financial support and all study participants who cooperated with us. This research was approved by the ethics committee with number: 937001/2.

Footnotes

Authors' Contribution: Meysam Behzadifar, Masoud Behzadifar and Ali Delpishe carried out the design and coordinated the study analysis and participated in manuscript preparation. Mandana Saroukhani provided assistance in the design of the study and coordinated in manuscript preparation. Kourosh Sayehmiri provided assistance for analysis. All authors have read and approved the content of the manuscript.

Funding/Support: This research was performed with the financial support of the prevention of psychosocial injuries, research center, Ilam University of Medical Sciences, Ilam, Iran.

Financial Disclosure: Meysam Behzadifar, Masoud Behzadifar and Ali Delpishe reported receiving research grants and Kourosh Sayehmiri and Mandana Saroukhani received consulting fees for speaking from Biosite.

References

- Ahmadi F, Salar AR, Faghihzadeh S. The survey of quality of life in elderly of zahedan city. *Hayat*. 2004;**22**:61-7.
- Orfila F, Ferrer M, Lamarca R, Tebe C, Domingo-Salvany A, Alonso J. Gender differences in health-related quality of life among the elderly: the role of objective functional capacity and chronic conditions. *Soc Sci Med*. 2006;**63**(9):2367-80. doi: [10.1016/j.socscimed.2006.06.017](https://doi.org/10.1016/j.socscimed.2006.06.017). [PubMed: [16884840](https://pubmed.ncbi.nlm.nih.gov/16884840/)].
- Yen CF, Kuo CY, Tsai PT, Ko CH, Yen JY, Chen TT. Correlations of quality of life with adverse effects of medication, social support, course of illness, psychopathology, and demographic characteristics in patients with panic disorder. *Depress Anxiety*. 2007;**24**(8):563-70. doi: [10.1002/da.20239](https://doi.org/10.1002/da.20239). [PubMed: [17133441](https://pubmed.ncbi.nlm.nih.gov/17133441/)].
- Epley DR, Menon M. A method of assembling cross-sectional indicators into a community quality of life. *Soc Indic Res*. 2008;**88**(2):281-96.
- Katschnig H, Krautgartner M. Quality of life: A new dimension in mental health care. *Psychiatr Soc*. 2002:171-91.
- Park K. Park's textbook of preventive and social medicine. India: Bhandarsid S; 1995.
- Marrero D, Pan Q, Barrett-Connor E, de Groot M, Zhang P, Percy C, et al. Impact of diagnosis of diabetes on health-related quality of life among high risk individuals: the Diabetes Prevention Program outcomes study. *Qual Life Res*. 2014;**23**(1):75-88. doi: [10.1007/s1136-013-0436-3](https://doi.org/10.1007/s1136-013-0436-3). [PubMed: [23709097](https://pubmed.ncbi.nlm.nih.gov/23709097/)].
- Guyatt GH, Feeny DH, Patrick DL. Measuring health-related quality of life. *Ann Intern Med*. 1993;**118**(8):622-9. [PubMed: [8452328](https://pubmed.ncbi.nlm.nih.gov/8452328/)].
- Garratt A, Schmidt L, Mackintosh A, Fitzpatrick R. Quality of life measurement: bibliographic study of patient assessed health outcome measures. *BMJ*. 2002;**324**(7351):1417. [PubMed: [12065262](https://pubmed.ncbi.nlm.nih.gov/12065262/)].
- Rodger AJ, Jolley D, Thompson SC, Lanigan A, Crofts N. The impact of diagnosis of hepatitis C virus on quality of life. *Hepatology*. 1999;**30**(5):1299-301. doi: [10.1002/hep.510300504](https://doi.org/10.1002/hep.510300504). [PubMed: [10534353](https://pubmed.ncbi.nlm.nih.gov/10534353/)].
- Ketelaars CA, Schlosser MA, Mostert R, Huyer Abu-Saad H, Halfens RJ, Wouters EF. Determinants of health-related quality of life in patients with chronic obstructive pulmonary disease. *Thorax*. 1996;**51**(1):39-43. [PubMed: [8658367](https://pubmed.ncbi.nlm.nih.gov/8658367/)].
- Sprangers MA, de Regt EB, Andries F, van Agt HM, Bijl RV, de Boer JB, et al. Which chronic conditions are associated with better or poorer quality of life?. *J Clin Epidemiol*. 2000;**53**(9):895-907. [PubMed: [11004416](https://pubmed.ncbi.nlm.nih.gov/11004416/)].
- Edelman D, Olsen MK, Dudley TK, Harris AC, Oddone EZ. Impact of diabetes screening on quality of life. *Diabetes Care*. 2002;**25**(6):1022-6. [PubMed: [12032109](https://pubmed.ncbi.nlm.nih.gov/12032109/)].
- Pour Tahamtan M. Health-related quality of life for people over 40 living in Mazandaran. *Payesh*. 2011;**10**(2):149-5.
- Cohen SR, Mount BM, MacDonald N. Defining quality of life. *Eur J Cancer*. 1996;**32**(5):753-4.
- Wood-Dauphinee S. Assessing quality of life in clinical research: from where have we come and where are we going?. *J Clin Epidemiol*. 1999;**52**(4):355-63. [PubMed: [10235176](https://pubmed.ncbi.nlm.nih.gov/10235176/)].
- Daviglus ML, Liu K, Yan LL, Pirzada A, Garside DB, Schiffer L, et al. Body mass index in middle age and health-related quality of life in older age: the Chicago heart association detection project in industry study. *Arch Intern Med*. 2003;**163**(20):2448-55. doi: [10.1001/archinte.163.20.2448](https://doi.org/10.1001/archinte.163.20.2448). [PubMed: [14609781](https://pubmed.ncbi.nlm.nih.gov/14609781/)].
- Diener E, Oishi S, Lucas RE. Personality, culture, and subjective well-being: emotional and cognitive evaluations of life. *Annu Rev Psychol*. 2003;**54**:403-25. doi: [10.1146/annurev.psych.54.101601.145056](https://doi.org/10.1146/annurev.psych.54.101601.145056). [PubMed: [12172000](https://pubmed.ncbi.nlm.nih.gov/12172000/)].
- Engel GL. The need for a new medical model: a challenge for biomedicine. *Science*. 1977;**196**(4286):129-36. [PubMed: [847460](https://pubmed.ncbi.nlm.nih.gov/847460/)].

20. Flegal KM, Graubard BI, Williamson DF, Gail MH. Excess deaths associated with underweight, overweight, and obesity. *JAMA*. 2005;**293**(15):1861-7. doi: [10.1001/jama.293.15.1861](https://doi.org/10.1001/jama.293.15.1861). [PubMed: [15840860](https://pubmed.ncbi.nlm.nih.gov/15840860/)].
21. Prutkin JM, Feinstein AR. Quality-of-life measurements: origin and pathogenesis. *Yale J Biol Med*. 2002;**75**(2):79-93. [PubMed: [12230313](https://pubmed.ncbi.nlm.nih.gov/12230313/)].
22. Aaronson N, Alonso J, Burnam A, Lohr KN, Patrick DL, Perrin E, et al. Assessing health status and quality-of-life instruments: attributes and review criteria. *Qual Life Res*. 2002;**11**(3):193-205. [PubMed: [12074258](https://pubmed.ncbi.nlm.nih.gov/12074258/)].
23. Urbana S, Louise P. Quality of life after acute myocardial infarction. *J Health Qual Life*. 2005;**3**(80).
24. Hagens VE, Ranchor AV, Van Sonderen E, Bosker HA, Kamp O, Tijssen JG, et al. Effect of rate or rhythm control on quality of life in persistent atrial fibrillation. Results from the Rate Control Versus Electrical Cardioversion (RACE) Study. *J Am Coll Cardiol*. 2004;**43**(2):241-7. [PubMed: [14736444](https://pubmed.ncbi.nlm.nih.gov/14736444/)].
25. Van Gelder IC, Hagens VE, Bosker HA, Kingma JH, Kamp O, Kingma T, et al. A comparison of rate control and rhythm control in patients with recurrent persistent atrial fibrillation. *N Engl J Med*. 2002;**347**(23):1834-40. doi: [10.1056/NEJMoa021375](https://doi.org/10.1056/NEJMoa021375). [PubMed: [12466507](https://pubmed.ncbi.nlm.nih.gov/12466507/)].
26. Bubien RS, Knotts-Dolson SM, Plumb VJ, Kay GN. Effect of radiofrequency catheter ablation on health-related quality of life and activities of daily living in patients with recurrent arrhythmias. *Circulation*. 1996;**94**(7):1585-91. [PubMed: [8840848](https://pubmed.ncbi.nlm.nih.gov/8840848/)].
27. Kay GN, Bubien RS, Epstein AE, Plumb VJ. Effect of catheter ablation of the atrioventricular junction on quality of life and exercise tolerance in paroxysmal atrial fibrillation. *Am J Cardiol*. 1988;**62**(10 Pt 1):741-4. [PubMed: [3421175](https://pubmed.ncbi.nlm.nih.gov/3421175/)].
28. Nikpour S, Habibi A, Seiedoshohadai M, Haghani H. Relation between Quality of life and socio-demographic characteristics among older people in Tehran-Iran. *Middle East J Age Aging*. 2007;**4**(2):25-30.
29. Ware JJ, Gandek B. Overview of the SF-36 Health Survey and the International Quality of Life Assessment (IQOLA) Project. *J Clin Epidemiol*. 1998;**51**(11):903-12. [PubMed: [9817107](https://pubmed.ncbi.nlm.nih.gov/9817107/)].
30. Burstrom K, Johannesson M, Diderichsen F. Health-related quality of life by disease and socio-economic group in the general population in Sweden. *Health Policy*. 2001;**55**(1):51-69. [PubMed: [11137188](https://pubmed.ncbi.nlm.nih.gov/11137188/)].
31. Montazeri A, Goshtasebi A, Vahdaninia M, Gandek B. The Short Form Health Survey (SF-36): translation and validation study of the Iranian version. *Qual Life Res*. 2005;**14**(3):875-82.
32. Montazeri A, Goshtasebi A, Vahdaninia MS. The Short Form Health Survey (SF-36): Translation and validation study of the Iranian version. *Payesh*. 2006;**5**:49-56.
33. Isikhan V, Guner P, Komurcu S, Ozet A, Arpacı F, Ozturk B. The relationship between disease features and quality of life in patients with cancer-I. *Cancer Nurs*. 2001;**24**(6):490-5. [PubMed: [11762512](https://pubmed.ncbi.nlm.nih.gov/11762512/)].
34. Hadi N, Montazeri A, Behbody E. Health-related quality of life in chronic kidney disease. *Payesh*. 2010;**9**(2):172-65.
35. Habibi A, Nemadi-Vosoughi M, Habibi S, Mohammadi M. Quality of life and prevalence of chronic illnesses among elderly people: A cross-sectional survey. *Ardebil Health J*. 2012;**3**(1):66-58.
36. Vahdaninia MS, Gashtasbi A, Montazeri A, Mafton F. Health quality of life in elderly: population based survey. *Payesh*. 2005;**4**:113-20.
37. Lee TW, Ko IS, Lee KJ. Health promotion behaviors and quality of life among community-dwelling elderly in Korea: a cross-sectional survey. *Int J Nurs Stud*. 2006;**43**(3):293-300. doi: [10.1016/j.ijnurstu.2005.06.009](https://doi.org/10.1016/j.ijnurstu.2005.06.009). [PubMed: [16105668](https://pubmed.ncbi.nlm.nih.gov/16105668/)].
38. Goshtasbi A, Montazeri A, Vahdaninia M, Rahimi A, Mohammad K. Self-reported and socioeconomic status: Results from a population-based study in tehran, iran. *Payesh*. 2003;**2**:138-89.
39. Haas JS, Jackson RA, Fuentes-Afflick E, Stewart AL, Dean ML, Brawarsky P, et al. Changes in the health status of women during and after pregnancy. *J Gen Intern Med*. 2005;**20**(1):45-51. doi: [10.1111/j.1525-1497.2004.40097.x](https://doi.org/10.1111/j.1525-1497.2004.40097.x). [PubMed: [15693927](https://pubmed.ncbi.nlm.nih.gov/15693927/)].
40. Schultz AA, Winstead-Fry P. Predictors of quality of life in rural patients with cancer. *Cancer Nurs*. 2001;**24**(1):12-9. [PubMed: [11219418](https://pubmed.ncbi.nlm.nih.gov/11219418/)].
41. Mir M, Safavi M, Fesharaki M, Farhadi SM. Determine of association quality of life and stress coping method among the caregiver of patient with multiple sclerosis; ms society, Ahvaz 2008. *Ahvaz J Med*. 2011;**10**(5).
42. Abbaszadeh F, Bagheri A, Mehran N. Quality of life among pregnant women. *J Hayat*. 2009;**15**(1):41-8.
43. Zillich AJ, Blumenschein K, Johannesson M, Freeman P. Assessment of the relationship between measures of disease severity, quality of life, and willingness to pay in asthma. *Pharmacoeconomics*. 2002;**20**(4):257-65. [PubMed: [11950382](https://pubmed.ncbi.nlm.nih.gov/11950382/)].
44. Albou Kordi M, Ramezani MA, Arizi F. A study on the quality of life among elderly Shahinshahr area of Isfahan province in year 2004. *Sci Med J*. 2007;**5**(4):701-7.
45. Bazrafshan MR, Hosseini MA, Rahgozar M, Maddah B. Quality of life in elderly women Jahandidegan daily association members in Shiraz city 2007. *Salmand*. 2008;**3**(7):33-41.