Health related quality of life (HRQOL) and socio-demographic determinant among elderly community of Sabzevar, 2017

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Abstract: *Background and Objective: Global demographic pattern changes have increased the aging population of countries. A vulnerable population whose health is very important to governments, and in the meantime the quality of life is one of the most challenging health issues in this group. The aim of this study was to investigate the Health related quality of life (HRQOL) in elderly people in Sabzevar.*
Materials and Methods: This is a descriptive study. The statistical population of this study was 400 elderly people of 60 years and above in Sabzevar, who have been studied by sharing ratio method from six health centers and two nursing homes (parents). Data were collected through two questionnaires of demographic information and HUI3 and through interviews. For analyzing data, we used SPSS V24 software, descriptive statistics, t-test, chi-square and Fisher test.
Results: From between 400 elderly participants, 183 people (45.8%) were male and 217 people (54.3%) were female. The mean age of the elderly people was 71.5 ± 9.3. The overall average health score was 0.48 (0.56 in men and 0.42 in women). 5.8 percent of the elderly people have a high level of overall health and 67% of them were at a weak level of health; their level of health has been associated significantly with gender, age, education, occupation and chronic diseases (P-value<0.001).
Conclusion: The results have shown that older people, women, elderly, unemployed and sole elderly people and those who report more chronic illnesses have been at a lower health status.

Keywords: *Health Status, Quality of Life, Aging, Sabzevar*

INTRODUCTION

The 21st century is a century in which life expectancy for the world has passed through the 66-year boundary. Each year, the world's population grows by 1.7 percent. This is while the increase for the population aged 66 and above was 2.5 percent (Organization WH, 2015). According to the World Health Organization (WHO) in 2013, the world's aging population has risen from 9.2 percent in 1990 to 11.7 percent in 2013, and it is predicted it reaches 21.1 percent until 2050 (Nations U, 2013). According to this Organization, aging in developed countries begins from the age of 65 and for developing countries from the age of 60, and countries

whose more than 7% of population are elderly people are considered to be old countries (Organization WH, 2015).

Aging is defined as "the old age is the process of progressive and irreversible physiological changes occurring during each person's life" (Stanhope M, 2008). With age, most systems in the body are exposed to some degree of deterioration in their tasks. In the meantime, those acts of the body that require multi-system activities are more affected. The general condition of the body is shrinking (R M, 2011) and, of course, changes in whatever form are considered to be a lack. Aging involves processes that can make difficult the person's abilities to cope with these deficiencies (Eliopoulos C, 2010).

Studies indicate this principle that chronic diseases are one of the most common and important problems in the elderly people, and as the age increases, these problems become more severe and more common. Studies in Brazil in 2014, entitled "Health and Nursing Care Costs of elderly people" by Garces leme and Dekers leme, findings indicate that 77.4% of the elderly people over the age of 60 report at least a chronic type of illness and this rate reaches 81.3% in the elderly over 75 years of age. The most common diseases among the elderly people of this country include hypertension (50%), low back pain (31.5%) and osteoporosis (24%) (Garcez-Leme LE, et al., 2014); they create various physical, psychological, social, economic and family problems in the elderly people (Smeltzer S, et al., 2008; Darvishpoor Kakhki A, 2010).

In addition to the effects of age, lifestyle changes and urbanization, such as lack of exercise and inappropriate nutrition that leads to weight gain and obesity, also affect all aspects of health-related quality of life (Eliopoulos C, 2010; Tabloski PA, 2014). As a result, the goal of support for the elderly people should not only be to increase their longevity. Nowadays, in the world, the concept of "active aging" has been taken into account, that is, increasing the quantity of the elderly population will also increase their quality of life (Farajzadeh M, 2017). According to the WHO, the quality of life is the understanding of individuals of their position in life, in terms of culture and value system in which they live, goals, expectations, standards and priorities (Organization WH, 2015). In fact, it includes the further concept of physical health and is one of the important indicators that measuring it in various researches of health is regarded necessary as one of the important consequences (Farajzadeh M, 2017).

The most important determinant factor of the quality of life of elderly people is their level of health; it is considered to be the core of the quality of life. Because in the health system we cannot fully examine the phenomenon of quality of life, we examine the concept of health in relation to quality of life and define it as "quality of life associated with health" (HRQOL) (Ware JE, 1987; Bowling A, 2001); studies show that the level of health decreases with age (Aghamolaei T, et al., 2010; Mosalem FA, et al., 2009; Halter J, et al., 2009). Although aging is associated with a decline in their quality of life, the effect of other variables should not be neglected. Hence, the identification of the factors affecting the quality of life in elderly age is potentially important (Smeltzer C BB, et al., 2010).

Hajian Tilaki et al have conducted a study on the Health related quality of life in the elderly people of Amirkala. The findings of this study indicate that the (HRQOL) has a direct relation with age, gender, marital status, education and chronic diseases and factors such as aging, female sex, loneliness, illiteracy and chronic diseases have led to a decline in their (HRQOL) (Hajian-Tilaki K, et al., 2017). Mohsen Rajabi et al have also conducted a study in this regard in Tehran, in which the increase in quality of life in elderly people with high education, married and male has been directly related (RAJABI M, et al., 2017). In this regard, Mosalem et al have conducted a study on (HRQOL) in elderly people living in villages in Egypt. The findings of this study indicate that variables such as age, gender, education, marital status, employment, financial status, life conditions and suffering from chronic diseases have had a direct impact on the health status associated with the quality of life of elderly people in Egypt (Mosalem FA, et al., 2009). The purpose of this research was to investigate the health status associated with quality of life and the factors affecting it in the

elderly people of Sabzevar, in which accurate and coherent information has been not collected on this important population.

Materials and methods
Study design
This is a descriptive-analytic study. The units of this research were 400 elderly people aged 60 years and over who were selected by "proportion to size sampling" method from six health centers and two elderly nursing homes of Sabzevar-Iran between May and April-July 2017. Data were collected through two demographic information questionnaires (age, sex, education, marital status and chronic diseases) and HUI3 questionnaire by interview method.

Data collection
The HUI3 questionnaire was designed to assess the (HRQOL). It has 8 dimensions that include: hearing, visual, verbal, walking (ability to go around), emotions, cognitive status (memory and thinking), pain (comfort) and skills (ability to use hands). Each dimension has 4 to 6 scales, whose scores vary from total disability (score 0) to full ability (score 1) (Feeny D, 2005). To report health status, score 1 indicates that there is no disability in the entire dimension. A score of 0.89-0.99 indicates a mild disability, a score of 0.70-0.88 indicating moderate disability, a score below 0.70 indicates severe disability in the overall dimension (Feeny D, et al., 2002). It should be noted that several versions of this questionnaire are designed and available that the current study uses the Usual Health version.

Validity and Reliability of questionnaire
The Persian version of this questionnaire has been translated and interpreted in the elderly people of Sabzevar while researching and its validity and reliability have been studied. The results are as follows. Validity of the questionnaire: In the quantitative survey, 10 experts (2 professors of aging, 2 geriatricians and 2 senior students of geriatrics, 2 nurses and 2 nurses responsible for visiting in homes) were used. Finally, the calculated CVI (Content Validity Index) for all items was above 0.82, which was desirable. For convergent structure validity, after completing questionnaires (HUI3 and SF-36), Pearson's correlation coefficient was 0.87 (95% confidence coefficient, P <0.001); that has indicated the validity of the current questionnaire in Iranian elderly people (Table 1).

Table 1. calculation of the Pearson correlation coefficient between the tool HUI3 and SF-36 in old folks under study

Variable		Number	Mean	Standard deviation	Minimum	Maximum	Pearson correlation coefficient	P-value
main convergent	HUI3	400	0/48	0/018	-0/35	1	0/87	0/001
	SF-36	40	54/03	23/56	17/13	89/50		

ICC was for evaluating the reliability of the HUI3 tool, the ICC>0.75 represents the perfect agreement, the ICC between 0.75 and 0.40 represents a good agreement and ICC<40 is the weak agreement of the questionnaire (Rosner B, 2015). The internal consistency of the tool was also examined by Cronbach's alpha method. The results showed that the questionnaire had a good reliability (Table 2).

Table 2. Calculation of the correlation coefficient of Cronbach's Alpha and Kappa of the tool HUI3

Test type	Number	Test case	Coefficient value
Cronbach's Alpha	400	Questionnaire total items	0.80

Intra class correlation coefficient	50	Questionnaire total items	0.93

The results show that the Persian version of the HUI3 questionnaire has been reliable.

SPSS V24 software, descriptive statistics tests, t-test and chi-square and Fisher test were used to analyze the data and all values were considered significant at the level of (p-value <0.05).

Findings

Demographic information: The age of the elderly participants was 60 to 114 years old and the mean age was 71.5 ± 9.3 years. Of these, 45.8% (183 people) were men and 54.3% (217 people) women. According to the classification of World Health Organization, 63.75 percent of the elderly people were in the age group of 60 to 74 (younger elderly people). 57 percent of them were married. 60.5% of the elderly people somewhat with one of their relatives (Table 3).

The study of different dimensions of quality of life based on the HUI3 questionnaire in 400 elderly people participating in the research showed that only 5.8% of them had a high level of (HRQOL) and 67% of them were at weak level (figure 1). Meanwhile, the mean of overall health score was 0.48 (0.56 in men and 0.42 in women). According to the t-student test, there was a direct and meaningful relationship between gender and the overall health status associated with quality of life (P-value <0.05).

After dividing the scores of (HRQOL) into 4 levels from high to weak, the results of Chi-Square and Fisher test showed that there is a direct relationship between the (HRQOL) and variables such as age, occupation, marital status, chronic disease and life conditions (p-value <0.05). Table (4).

Table 3. distribution of demographic characteristics of elderly subject with respect to gender (400)

Demographic characteristics	Male %	Female %	Total %
Age group 60-74 75-89 >89	 117(63/9) 57(31/3) 9(4/9)	 138(63/6) 67(30/9) 12(5/5)	 255(63/75) 124(31) 21(5/25)
Marital status Married Not married widow	 131(71/6) 9(4/9) 43(23/5)	 97(44/7) 7(3/2) 113(52/1)	 228(57) 16(4) 156(39)
Education level Illiterate Elementary High school University level	 84(45/9) 72(39/3) 18(9/8) 9(4/9)	 161(74/2) 47(21/7) 8(3/7) 1(0/5)	 245(61/25) 119(29/75) 26(6/5) 10(2/5)
Living with Alone Couple With son/ daughter Relative institute	 23(12/6) 111(60/7) 6(3/3) 28(15/3) 15(8/2)	 49(22/6) 99(45/6) 22(11/1) 26(12) 19(8/8)	 72(18) 210(52/5) 30(8) 54(13) 34(8/5)

Health related quality of life (HRQOL)

perfect ■ good ⋰ fair ⧄ poor
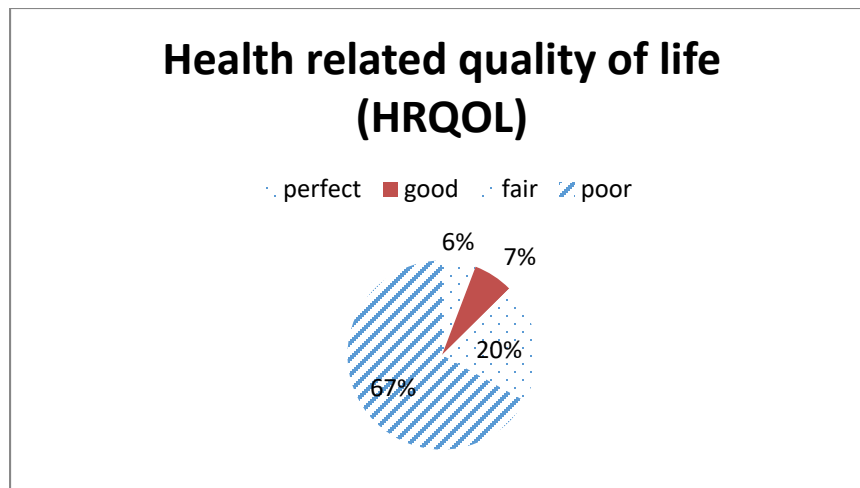
6% 7%

20%

67%

Figure 1. overall score of Health related quality of life (HRQOL) in elderly people of Sabzevar based on HUI3 questionnaire-2017

Table 4. the relation between HRQOL and demographic characteristics of the studis elderly people in sabzevar city with questionnaire HUI3 - 2017

Demographic characteristics	HRQOL level				P- value & Test statistic
	Perfect N %	Good N %	Fair N %	Poor N %	
Age group 60-74 75-89 >89	19(7/5) 4(3/2) 0(0)	24(9/4) 3(2/4) 0(0)	66(25/9) 16(12/9) 0(0)	146(57/3) 101(81/5) 21(100)	=0/001 p-value Fisher exact=41/36
Marital status Married Not married widow	19(8/3) 1(6/3) 3(1/9)	20(8/8) 1(6/3) 6(3/8)	63(27/6) 2(12/5) 17(10/9)	126(55/3) 12(75) 130(83/3)	=0/001 p-value X2= 34/18
Living condition Alone Couple With son/ daughter Relative institute	1(1/4) 19(9) 3(10) 0(0) 0(0)	1(1/4) 25(11/9) 0(0) 0(0) 1(2/9)	7(9/7) 62(29/5) 5(16/7) 4(6) 2(5/9)	63(87/5) 104(49/5) 22(73/3) 50(94) 31(91/2)	=0/001 p-value Fisher exact=92/07
Work Working Retired Housekeeper jobless	15(23/1) 7(10/3) 0(0) 1(0/9)	7(10/8) 10(14/7) 8(5/1) 2(1/8)	14(21/5) 30(44/1) 30(19) 8(7/3)	29(44/6) 21(30/9) 120(75/5) 98(89/5)	=0/001 p-value X2=118/84
Number of Chronic diseases 0 1 2 3 or more	16(22/5) 4(6/2) 2(3/6) 1(0/5)	15(21/1) 6(9/2) 3(5/4) 3(1/4)	19(26/8) 25(38/5) 15(26/8) 23(11/1)	21(29/6) 30(46/2) 36(64/3) 181(87)	=0/001 p- value Fisher exact=120/89

Discussion

The age range of the participants in the current study was 60 to 114 years. Most of the elderly people participating in the research were in the age group of 60 to 74 years old, and women in comparison with men had a higher percentage (54.3% vs. 45.8%), which is consistent with many studies in this area. (Mosalem FA, et al., 2009; Tanjani PT, et al., 2015; Sadeghiyan F, et al., 2011; Hosseinpoor AR, et al., 2012; Jafar zade fakhary M BVH, et al., 2010).

In this study, only 5.8% of the elderly people were at a high level in terms of their (HRQOL), and 67% of them had a weak (HRQOL). The above results were consistent with the study of Mosalem et al (Mosalem FA, et al., 2009). These conditions seem to be in line with the image of the elderly people in developing countries, and this issue will be in itself a concern, because it predicates some challenging events in the health area in the near future in the current community.

The findings of this study have not been consistent with the study of Feng et al (Feng Y, et al., 2009). In this study, the number of young elderly people participating in the research was 6 times older than the more elderly ones; "aging is defined as the process of progressive physiological change". The research population of Feng et al is Canada, being among the developed countries. The results of the studies show that the improvement of health services for the elderly people in these countries has improved and increased their level of (HRQOL) (Organization WH, 2015; Eliopoulos C, 2010; Halter J, 2009).

The results of this research showed that the mean score of (HRQOL) was weak, and men had higher scores compared to women (0.56 in men and 0.42 in women). There was a significant relationship between the reduction of health status and the incidence of disability on the one hand and gender one the other (p <0.001). The results of this study were confirmed by (Mosalem FA, et al., 2009; Hajian-Tilaki K, et al., 2017; Rajabi M, et al., 2017). This can be due to the fact that women are more likely to be at risk of illness and Life threatening conditions than men due to lower average income, differences in physiological and biological needs, differences in health priorities, lifestyle and health patterns (Stanhope M, et al., 2008).

In this study, 82.6% of the elderly people with high (HRQOL) were in the age group of young elderly people; there was a direct correlation between increase in age and the decrease in the level of (HRQOL) (p-value<0.001). With ageing the levels of health have fallen, which has been matched by many studies in this field (Organization WH, 2015; Mosalem FA, et al., 2009; Hosseinpoor AR, et al., 2014; Feng Y, et al., 2009; Yoshida D, et al., 2012).

Based on the findings of this research, the majority of elderly people with high (HRQOL) were married (82.6%) and married elderly people were at a higher level in terms of (HRQOL) (p-value <0.001). Many studies in this regard have confirmed the relationship (Mosalem FA, et al., 2009; Hajian-Tilaki K, et al., 2017; Rajabi M, et al., 2017; Hosseinpoor AR, et al., 2014; Luo J-Y, et al., 2016).

In the present study, the findings have shown that the employment of elderly people has increased the level of (HRQOL) in them (p-value <0.001). Although 65.2% of those with high (HRQOL) were in the working age group, the results of this study were confirmed by Mosalem et al, Liu et al and Williams et al (Mosalem FA, et al., 2009; Rajabi M, et al., 2017; Hosseinpoor AR, et al., 2014; Luo J-Y, et al., 2016). Is.

In this study, the relationship between (HRQOL) and the level of education has been measured. 69.6% of the elderly people who have a high level of health have a degree under diploma, while 26.1% of the illiterate ones were at high level regarding the (HRQOL); there was no significant relationship between education level and (HRQOL) (p-value <0.005); but in the study of Mosalem et al, study of Mohsen Rajabi and that of Liu et al (Mosalem FA, et al., 2009; Rajabi M, et al., 2017; Luo J-Y, et al., 2016) there was a direct correlation between the level of education and the (HRQOL) of the aged. These results can be attributed to: greater awareness, literacy of receiving information through the study of health resources and access to electronic resources, which has led to the emergence of preventive behaviors and promotion of health in the elderly population

(Mauk K, 2010); it seems that the contradiction between the results of this study and other studies in this area is due to the low number of educated elderly people participating in the study.

In the present research, the relationship between the (HRQOL) and suffering from chronic disease has been evaluated; there is a significant relationship between the level of (HRQOL) and the risk of chronic diseases (p-value <0.001), so that Healthy people have a better overall health status than other elderly people, as agreed with Mosalem et al (Mosalem FA, et al., 2009).

Conclusion

The present research was conducted to evaluate the (HRQOL) and its related factors in 2017 in the elderly community of Sabzevar. The results of the research indicated that only 5.8% of the elderly people had a high level of general health and 67% of them reported a poor (HRQOL) level. These results are alarming and predict challenging health and health events in the near future in the current society. According to the findings of this study, the (HRQOL) and its dimensions in elderly men, married people, those who live with their spouses and those without chronic illness have a higher level and with age, their level of health has decreased.

With regard to the changing population trend that we are witnessing in the country, there will be serious problems ahead in this area. It seems that in order to resolve and prevent these problems that will create some difficulty for our health system, an all-encompassing, preventive approach to this vulnerable population is necessary.

Appreciation

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