

## Evaluation of the Turkish Version of the World Health Organization Quality of Life Instrument-Older Adults' Module (WHOQOL-OLD)

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ARTICLE INFO	ABSTRACT
<p><b>Article type:</b> Original Article</p> <hr/> <p><b>Article History:</b> Received: 17-Jun-2021 Accepted: 21-Aug-2021</p> <hr/> <p><b>Key words:</b> Elderly, OLD, Quality-of-life, WHOQOL.</p>	<p><b>Introduction:</b> In recent years, the quality of life has become an important final health status indicator. Thus, increasing the quality of life in the growing population of the elderly is one of the most important goals in healthcare. The purpose of this study was to determine the quality of life of the elderly staying in nursing homes.</p> <p><b>Materials and Methods:</b> The research was carried out at the Gürçeşme Zübeyde Hanım Nursing Home, date between 1 July-30 August 2011, in İzmir. 103 elderly individuals, who met the inclusion criteria, constituted the research sample. Researcher collected data in face to face with the elderly participants.</p> <p><b>Results:</b> 52% of the participants are in 75-84 age group. 58% of the elderly were female; 56,3% were widowed; 61.2% were not literate; 39% have been staying in a nursing home because of no one to look after them; 41.7% had lived in a nursing home longer than seven years. 68.9% had at least one chronic disease, 58.3% of the elderly expressed their quality of life as good. WHOQOL-OLD total score was between 52-86 points (mean 70). The lowest scale mean score was sensory abilities and death and dying, sub-dimension group.</p> <p><b>Conclusion:</b> The quality of life in elderly people was affected directly by variables such as age, educational level, marital status, social capacity, chronic illnesses, income status, and length of staying in a nursing home. We suggest that improving the social activities and facilities of the institution in line with the results obtained.</p>
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## Introduction

The share of the elderly population has been increasing worldwide due to advanced technology and medical practices, as well as the fall in fertility rates. Along with the aging population, the elderly's welfare, accessibility to services, communication with the social environment, and sustainability of productivity have been emphasized, especially in the developed countries (1). In 2019, the number of people aged 60 years and older was 1 billion. This number will increase to 1.4 billion by 2030 and 2.1 billion by 2050. It is expected that there will be several problems in the sharing of health services and social security rights (2).

While living a longer life provides good opportunities, it brings difficulties caused by advanced age along with it. The socialization of the elderly who have satisfying experiences in their youth is one of the opportunities provided by a longer life. However, difficulties related to independence, social communication, health services, and participation in society are also faced at an advanced age (3). Elderly individuals are more vulnerable and helpless because of the decline in physical and mental capabilities, retirement, and dependence on pensions, and becoming lonely because of losing spouses, family members, or friends (4).

With advanced age, chronic diseases intensify, and the limitations and the disability rates increase accordingly (5). The elderly's expectation from life can only be met by proper standards of care, safe housing, good nutrition, and protection of the social environment; and the concept of quality of life comes to the fore because of all these concepts (6).

In 1948, the World Health Organization (WHO) defined health as not only the absence of illness or disability, but also the existence of physical, mental, and social well-being (7). Thus, the success of a treatment that solves only traditional biomedical features, which does not improve the health-Related Quality of Life, is limited (8). In recent years, the quality of life has become an important final health status indicator. There is a serious increase in the number of

publications towards the mid-1980s, although there was no publication in the literature about the quality of life before 1973 (9).

As a concept, the quality of life includes several factors such as health perceptions, well-being, functional status, happiness, general health status, emotional and economic status, psychological well-being, level of social communication, and feeling of pain; it is a multidimensional concept reflecting either the perception of life satisfaction or pleasure. Studies show that elderly individuals with a positive perception of the aging practice preventive care approaches more, compared to those who do not have such perception (10). The number of studies on the evaluation and development of the quality of life of the elderly has increased in recent years. The reason for this special emphasis on the elderly is the increase in the elderly population over the last 50 years and that this increase is expected to continue in the next century. Thus, increasing the quality of life in the growing population of the elderly is one of the most important goals in healthcare (11).

Along with old age, chronic diseases decrease physical fitness; this, in turn, decreases the quality of life (5). Particularly, when the quality of life of elderly people living in nursing homes is evaluated, the quality of life is shown to be lower than the elderly living in their own homes (12).

The quality of life of the elderly is influenced by factors such as age, gender, educational status, chronic illnesses, use of medication, physical disabilities, leisure activities, social security, economic condition, and living alone (10-12).

Several measures are used to assess the quality of life. Measures can be of various types, such as profile measures or preference-based measures, according to their methodological and theoretical bases, and as general measures of the quality of life that can be applied to every population or disease-specific measures of the quality of life applicable to those with certain diseases, according to the subject population. WHOQOL and its shorter form WHOQOL-BREF, developed by the World Health Organization (WHO), are the most used

profile measures. WHOQOL is a comprehensive instrument that assesses the well-being of an individual and allows cross-cultural comparisons. The WHOQOL-100, which consists of 100 questions, and the WHOQOL-BREF, which consists of 26 questions selected from among them, were prepared based on the pilot studies at 15 centers around the world. WHOQOL-BREF is commonly used for the elderly (13).

The primary purpose of the nursing discipline in the elderly is to help the elderly in performing their physical care, coping with their emotional problems, being self-sufficient, living with their disabilities, and feeling valued (14).

The purpose of this study is to determine the quality of life of the elderly staying in nursing homes and known to have a lower quality of life compared to the general population by using the WHOQOL-OLD instrument, a short form of the WHOQOL instrument developed by WHO.

## Materials and Methods

### Type of Study

The study was conducted as a descriptive study to examine the factors affecting the quality of life of the elderly living in nursing homes.

### Location of Study

The research was carried out at the Gürçeşme Zübeyde Hanım Nursing Home, date between 1 July 2011- 30 August 2011, which is affiliated to the Department of Social Services and located in the Buca district of İzmir.

### Universe of Study and Sampling

The universe of the study is the elderly people living in nursing homes. The elderly, who were included in the study, were 65 or older, able to communicate, did not have major depression, and voluntary. The universe of the study consisted of 196 elderly individuals and 103 elderly individuals, who met the inclusion criteria, constituted the research sample.

### Data Collection

The Elderly Individual Information Form, which determines the characteristics of sociodemographic and other variables, and

the Standardized Mini-Mental Test were used to collect data; the WHOQOL-OLD instrument was used to assess the quality of life. The Elderly Individual Information Form included questions about the elderly's age, gender, educational status, marital status, financial status, reasons for institutionalization, length of stay at the institution, the status of chronic illnesses, and evaluation of the quality of life.

The WHOQOL-OLD instrument (WHO Quality of Life – Elderly People Module) has been developed in a multi-centered project, including Turkey, to supplement the WHOQOL in epidemiological surveys and clinical intervention studies for elderly people. Eser et al. conducted the Turkish Validity and Reliability Study of the WHOQOL-OLD instrument. Cronbach's alpha value for the instrument was found to be 0.85 (15).

WHOQOL, a general-purpose quality of life profile measure, has two versions: a long WHOQOL-100 and a short 26-question WHOQOL-BREF. WHOQOL-100 has six dimensions with 25 sections, and WHOQOL-BREF consists of only four dimensions. The WHOQOL-OLD module is the first general-purpose quality of life measure developed for the elderly population in Turkey; with this study, a general-purpose quality of life measure for the elderly population was developed for the first time not only in Turkey but also in a geographical area including the Eastern Mediterranean and Middle Eastern countries. The WHOQOL-OLD measure consists of 24 questions within six dimensions, where responses were recorded with a five-point Likert scale. These six dimensions are "Sensory Abilities" (questions 1, 2, 10, and 20), "Autonomy" (questions 3, 4, 5, and 11), "Past, Present, Future Activities" (questions 12, 13, 15, and 19), "Social Participation" (questions 14, 16, 17, and 18), "Death and Dying" (questions 6, 7, 8, and 9), and "Intimacy" (questions 21, 22, 23, and 24). Possible scores for dimensions range from 4 to 20. In addition, the "total score" can be calculated by adding up each score value. The higher the score, the better the quality of life (15).

The "Sensory Abilities" dimension assesses the sensory abilities and the effects of their loss on the quality of life. The "Autonomy"

dimension means independence at an advanced age and expresses the ability to live on his/her own. The "Past, Present, Future Activities" dimension shows the satisfaction from life achievements and outlook for the future. The "Social Participation" dimension describes the ability to participate in everyday life activities, especially in society. The "Death and Dying" dimension refers to worries and anxieties about death and dying, while the "Intimacy" dimension evaluates the ability to establish personal and private relationships (15). The Mini-Mental State Examination (MMSE) was developed in 1975 by Folstein et al. and was later developed in the standardized version by Molloy and Standish in 1997. The Standardized Mini-Mental State Examination is a short and reliable instrument for cognitive assessment. The validity and reliability studies of the scale were carried out by Güngen et al. in 2002; values above the threshold value of 23/24 were determined as normal cognitive level. In the Turkish elderly population, the sensitivity and the specificity of the scale were found to be 91% and 95%, respectively. The scale contains questions organized under five main categories: orientation, registration, attention and calculation, recall, and language. The scale calculation is based on a score of 1 point for each correct answer and case out of 30 points (16).

#### **Evaluation of Data**

The statistical package program SPSS (Statistical Package for Social Sciences) for Windows 25.0 was used in the evaluation of the data. Number, percentage, averages were used in the analysis of descriptive information. One-way analysis of variance (ANOVA) and t-test in independent groups was used in evaluating variables assumed to be related to the quality of life. The significance level was defined as  $P < 0.05$ .

#### **Ethics of Research**

Necessary ethics permission has been taken to do study from Ege University Ethics Committee. Permission was obtained from the developer of the WHOQOL-OLD measure to implement it in the study.

The necessary permission was obtained from the nursing home to conduct the research, and verbal and written approvals were obtained from the elderly participants. All three data collection tools were implemented, and the collected data were recorded by the investigator in face to face with the elderly participants.

#### **Results**

The average age of the surveyed elderly is 75-84, and 52% of the participants are in this age group. 58% of the elderly were female; 56.3% were widowed; 61.2% were not literate; 78.6% had equal income and expense. 39% have been staying in a nursing home because of no one to look after them; 41.7% had lived in a nursing home longer than seven years.

68.9% had at least one chronic disease; 17.5% being heart failure and high blood pressure. 58.3% of the elderly expressed their quality of life as good (Table 1).

When evaluating the quality of life by the WHOQOL-OLD questionnaire, the best quality-of-life (QoL) was discovered in the domain of intimacy, death and dying, and autonomy while the worst QoL was discovered in social participation and sensory abilities (Table 2).

When the distribution of scores received from the quality-of-life scale and its sub-dimensions according to the characteristics of the participants, statistically significant findings were found in the sub-dimensions (Table 3).

**Table 1:** Socio-demographic and clinical characteristics of seniors

Socio-demographic and Clinical characteristics	Groups	N	%
Age	65-74	32	31,1
	75-84	54	52,4
	85 and older	17	16,5
Gender	Female	58	56,3
	Male	45	43,7
Marital status	Living with partner	11	10,7
	Living without partner	34	33,00
	Widowed	58	56,3
Education status	not literate	63	61,2
	Primary school	24	23,3
	Middle School + High School	16	15,5
Income status	Income less than expenses	22	21,4
	Equal income and expense	81	78,6
	Income more than expenses	0	0,0
Reason for staying in a nursing home	Because I can't take care of myself	26	25,2
	Because I have no one	37	35,9
	Because I was not accepted by my family	10	9,7
	Because I don't want to be a burden to my family	30	29,1
Length of stay at nursing home	Less than 1 year	12	11,7
	1-3 year	19	18,4
	4-6 year	29	28,2
	7 year and more	43	41,7
Chronic illnesses	Yes	71	68,9
	No	32	31,1
Name of illnesses	I haven't got any chronic illness	32	31,1
	Diabetes Mellitus	2	1,9
	Heart Failure and Hypertension	18	17,5
	Rheumatic diseases	8	7,8
	Chronic Obstructive Pulmonary Disease Asthma and Hypertension	10	9,7
	Osteoporosis, Hypertension And Diabetes Mellitus	10	9,7
	Hypertension and Diabetes Mellitus	9	8,7
	Hypertension	12	11,7
	Hypertension and Kidney failure	1	1,0
Expressed quality of life	Cancer	1	1,0
	Bad	4	3,9
	Middle	29	28,2
	Good	60	58,3
	Very good	10	9,7

**Table 2:** Quality of life of seniors in WHOQOL domains

WHOQOL domains (0-100)	N	Min.	Maks.	Mean	SD
Sensory abilities	103	4,00	17,00	10,33	2,83
Autonomy	103	9,00	19,00	13,78	2,13
Past, present and future activities	103	5,00	18,00	12,31	2,73
Social participation	103	5,00	17,00	11,90	2,94
Death and dying	103	4,00	19,00	9,17	3,17
Intimacy	103	5,00	20,00	13,33	3,11
Total score	103	52,00	86,00	70,40	7,92

**Table3:** The Distribution of the Scores of the Quality-of-Life Scale and its Sub-Dimensions According to the Characteristics of the Participants

Characteristics	Quality of Life Scale and its Sub-Dimensions						
	Sensory abilities	Autonomy	Past, present and future activities	Social participation	Death and dying	Intimacy	Total score
	$\bar{X} \pm SD$	$\bar{X} \pm SD$	$\bar{X} \pm SD$	$\bar{X} \pm SD$	$\bar{X} \pm SD$	$\bar{X} \pm SD$	$\bar{X} \pm SD$
Age							
65-74 (1)	10,11±2,25	13,96±2,20	11,81±2,37	12,44±2,56	8,14±2,74	12,77±2,42	69,22±7,51
75-84 (2)	9,96±2,45	13,92±2,12	12,50±2,82	12,07±3,00	9,61±3,31	13,83±3,32	71,29±8,54
85 and older (3)	12,82±3,22	13,11±2,14	12,76±3,21	10,41±3,06	9,05±2,72	12,76±3,34	70,47±5,96
KW	14,977	1,791	2,642	5,206	6,139	3,554	1,915
P	0,002*	0,617	0,450	0,157	0,105	0,314	0,590
Adjusted Bonferroni	1<3, 2<4						
Gender							
Female	10,43±2,52	13,72±2,17	12,75±2,61	11,93±3,13	9,34±3,32	13,14±2,84	70,95±8,38
Male	10,22±3,22	13,86±2,09	11,73±2,79	11,87±2,72	8,96±3,01	13,58±3,45	69,71±7,33
T	0,369	-0,335	1,913	0,110	0,615	-0,710	0,784
P	0,713	0,738	0,059	0,913	0,540	0,479	0,435
Marital status							
Living with partner	10,63±3,69	13,09±1,75	12,72±3,40	12,36±2,97	9,81±3,06	14,54±3,72	72,09±7,64
Living without partner	9,58±2,93	13,79±2,22	12,02±2,91	12,50±2,74	9,08±3,48	13,82±3,45	71,38±8,53
Widowed	10,72±2,55	13,91±2,14	12,39±2,51	11,46±3,02	9,10±3,05	12,81±2,69	70,10±7,69
F	1,814	0,685	0,332	1,490	0,249	2,123	0,287
P	0,168	0,506	0,718	0,230	0,780	0,125	0,751
Education status							
not literate (1)	10,50±2,58	13,49±1,97	12,11±2,84	11,84±2,85	9,14±3,15	13,23±3,23	69,87±8,70
Primary school (2)	11,25±3,28	13,45±2,39	12,33±2,76	11,25±3,08	9,16±2,95	13,00±2,46	70,00±5,35
Middle School + High School (3)	8,31±2,18	15,43±1,59	13,06±2,20	13,12±2,87	9,31±3,75	14,18±3,50	73,12±7,77
F	5,958	6,275	0,771	2,025	0,018	0,767	1,118
P	0,004*	0,003*	0,466	0,137	0,982	0,467	0,331
Bonferroni	3<2	1<3, 2<3					
Income status							
Income less than expenses	10,09±3,40	13,68±2,35	11,81±3,01	12,22±2,58	8,81±3,52	14,50±2,93	70,54±7,98
Equal income and expense	10,40±2,68	13,81±2,08	12,44±2,65	11,81±3,04	9,27±3,09	13,01±3,09	70,37±7,95
T	-0,403	-0,258	-0,953	0,581	-0,591	2,019	0,091
P	0,690	0,797	0,343	0,562	0,556	0,046*	0,927
Reason for staying in a nursing home							
Because I can't take care of myself	10,92±2,33	14,23±1,90	12,69±2,03	12,69±2,93	8,80±2,87	14,15±1,75	73,19±6,34
Because I have no one	9,48±2,91	13,62±2,49	11,86±3,01	11,67±3,39	9,59±3,38	13,45±3,71	69,16±9,10
Because I was not accepted by my family	9,70±2,11	12,90±1,52	10,90±2,76	10,70±2,11	10,40±2,98	11,70±3,56	66,20±8,31
Because I don't want to be a burden to my family	11,10±3,12	13,78±2,13	13,00±2,74	11,90±2,49	8,56±3,19	13,00±2,93	70,93±6,82
F	2,472	1,057	2,085	1,264	1,199	1,691	2,459
P	0,066	0,371	0,107	0,291	0,314	0,174	0,067
Length of stay at nursing home							
Less than 1 year (1)	9,25±3,62	13,75±2,22	11,16±2,62	12,83±2,16	9,75±4,00	15,25±2,41	71,25±5,15
1-3 year (2)	10,78±3,64	14,21±2,12	13,15±2,71	12,57±2,45	7,15±2,06	13,89±2,97	71,00±5,76
4-6 year (3)	10,13±2,57	13,20±2,24	11,58±2,19	10,34±2,79	10,55±3,45	12,20±2,71	68,00±7,78
7 year and more (4)	10,58±2,34	14,00±2,02	12,74±2,95	12,39±3,10	8,97±2,69	13,30±3,34	71,53±9,23
F	0,899	1,114	2,449	4,210	5,097	3,187	1,273
P	0,444	0,347	0,068	0,008*	0,003*	0,027*	0,288
Bonferroni				3<4	2<3	1<3	
Chronic illnesses							
Yes	10,21±2,77	13,85±2,03	12,25±2,61	12,26±2,81	9,60±3,14	13,38±3,19	71,21±8,52
No	10,62±3,00	13,62±2,36	12,43±3,01	11,09±3,10	8,21±3,08	13,21±2,97	68,62±6,14
T	-0,683	0,514	-0,315	1,897	2,082	0,243	1,543
P	0,496	0,608	0,754	0,061	0,040*	0,809	0,126
Expressed quality of life							
Bad (1)	9,50±4,04	12,50±2,64	11,25±0,50	9,75±3,50	7,00±0,00	9,25±1,89	59,25±7,45
Middle (2)	10,03±3,45	13,17±2,53	11,34±3,01	11,41±2,86	9,65±3,27	12,37±3,47	67,27±6,83
Good (3)	10,75±2,41	13,91±1,86	12,46±2,41	12,03±3,00	9,21±3,28	13,81±2,60	71,93±7,65
Very good (4)	9,10±2,64	15,30±1,33	14,60±2,91	13,40±2,01	8,40±2,59	14,80±3,45	74,80±6,26
KW	5,823	4,352	12,976	15,291	4,788	9,320	10,837
P	0,124	0,226	0,005*	0,002*	0,188	0,025*	0,013*
Adjusted Bonferroni			1<3, 1<4			1<4	2<3, 2<4

There is statistically a significant difference between the sensory abilities sub-dimension scores according to the age of the participants ( $P < 0.05$ ) and the sensory abilities sub-dimension scores of the participants aged 85 and over are higher than the participants in the other age ranges. There is a statistically significant difference between the sensory abilities and the autonomy sub-dimension scores according to the educational status of the participants ( $P < 0.05$ ), and the sensory abilities sub-dimension scores of the participants whose education level is primary school are higher than the participants whose education level is secondary school. The autonomy sub-dimension scores of the participants whose education level is secondary school are higher than those who are illiterate and primary school. There is a statistically significant difference between the intimacy sub-dimension scores according to the income status of the participants ( $P < 0.05$ ), and the intimacy sub-dimension scores of the participants whose income is less than their expenses are higher than whose income is equal to their expenses. The social participation sub-dimension scores of the participants who have stayed in the institution for 7 years or more were found to be higher than those with a duration of 4-6 years, and the difference is statistically significant ( $p < 0.005$ ). It was observed that the death and dying sub-dimension scores of the participants with a stay in the institution for 4-6 years was higher than the participants with a residence period of 1-3 years, and this was statistically significant ( $P < 0.005$ ). It is seen that the intimacy sub-dimension scores of the participants who have stayed at the institution for 4-6 years are higher than those who have stayed at the institution for less than 1 year.

It was found that the death and dying sub-dimension scores of the participants with chronic diseases are higher than the participants without chronic diseases.

It is seen that the autonomy sub-dimension scores and the past, present, and future activities sub-dimension scores of the participants who evaluate their quality of life as good or very good are higher than those who evaluate their quality of life as bad. It was found that the intimacy sub-dimension

scores of the participants who evaluate their quality of life as very good are higher than those who evaluate their quality of life as bad. It is seen that the total scores of the quality-of-life scale of the participants who evaluate their quality of life as very good and good are higher than those who evaluate their quality of life as a medium.

## Discussion

There was no statistically significant difference between the gender and total quality of life scores of the elderly in our study ( $p > 0,590$ ). Although men were reported to have a higher quality of life than women in other studies, there no statistical difference was found in this study (17,18).

In our study, the sensory abilities sub-dimension scores of the participants aged 85 and over are higher than the participants in the other age ranges. Sensory impairment is a common condition that exerts negative effects on the quality of life in the elderly (19) and our study supports this situation.

Lower educational level is associated with unhappiness, poor social relationships, poor self-assessed health, and sensory problems among elderly people (20). Education is an important indicator that may directly or indirectly influence QoL through its association with higher social class. In our study of sensory abilities, sub-dimension scores of the participants whose education level is primary school are higher than the participants whose education level is secondary school. Our result is the same as the other studies.

A decrease in the income status, which is directly related to the quality of life, leads to a decrease in the quality of life in the elderly too. There was a statistically significant difference in the intimacy dimension of the scale between the group with poor income status and the group with equal income and expenses ( $P < 0.046$ ). Sufficient income has also been found to be strongly associated with quality of life in other studies (21,22,23).

It was observed that the social participation sub-dimension scores significantly were higher for the elderly who had stayed in the nursing home for four years or longer. It is thought that the social ties established with the workers at the nursing home and other

elderly people positively affected the score. Similar results were obtained in other studies (21,24,25).

In our study, it was observed that the death and dying sub-dimension scores and intimacy of the participants with a stay in the institution for 4-6 years were higher than the participants with a residence period of 1-3 years, and this was statistically significant ( $p < 0.005$ ). The elderly who stays in nursing homes for a long time witness the death of their friends or other elderly people and are affected by this process. We couldn't find any study to compare with our study for the year of stay in the institution and total score for the sub-dimension of death and dying and intimacy.

It was found in our study that the death and dying sub-dimension scores of the participants with chronic diseases are higher than the participants without chronic diseases. Health status is an important factor directly affecting QoL. Health-related life quality includes the individual's perception of his/her health status, being active in physical, social, and psychological terms. Many studies have similar results with our study (20,26,27).

Generally, total scores of the quality-of-life scale of the participants who evaluate their quality of life as very good and good are higher than those who evaluate their quality of life as medium or bad. When the elderly feel that they have enough income, positive social relationships, less chronic illness, and positive health status to join the activity and have the motivation to do the other individual needs, their quality of life is affected as good (28,29).

When the relationship between the reason for staying at a nursing home and the "Sensory Abilities" dimension was examined, it was observed that the score was higher for those who could not perform personal care on their own. The problem of personal care, which is a leading cause for staying at nursing homes, was seen as a determinant in this study; other studies have also supported these findings (21,25).

### Conclusion

The quality of life in elderly people was affected directly by variables such as age, educational level, marital status, social

capacity, chronic illnesses, income status, and length of staying in a nursing home. So, we suggest that improving the social activities and facilities of the institution in line with the results obtained in this study may contribute to the improvement of the quality of life and elderly people feel they're in safe and happy.

The limitation of the study was that we applied the study to only this nursing home population, so the results are not reflected the general older population.

### Acknowledgement

Hereby, the researchers express their gratitude to the elderly people for their participation in the administration of the survey. Novelty in this study is to explain the older population's quality-of-life that the administration of nursing homes provides to change their social support to the elderly. They can see older people's needs and weak sites in the nursing home and can change according to elderly's needs the yearly program.

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