

Quality of Life, Prevalence of Depression, Independence in Activities of Daily Living Among Individuals Aged 65 and Over Living in the City Center of Bitlis

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What is known on this subject?

The increase in the elderly population worldwide also reveals the importance of elderly people having a long and healthy life. The important factors of a long and healthy life include quality of life, independence in daily living activities and active life, and depression, which is one of the increasing problems of mental health in the elderly.

What this study adds?

Quality of life, independence status, and depression in the elderly are affected by many variables.

ABSTRACT

Objective: This study aimed to determine the quality of life, prevalence of depression, and level of independence in activities of daily living among individuals aged 65 and over and to examine related factors.

Material and Methods: This was a cross-sectional study. Three hundred and fifty-four individuals aged 65 and over were included in the study. In the study, socio-demographic questions, "World Health Organization Quality of Life-Old Module (WHOQOL-OLD)", "Katz Index of Independence in Activities of Daily Living", and "Yesavage Geriatric Depression Scale" were used.

Results: The rate of dependence on activities of daily living among the elderly who participated in the study was 27.7%. The level of definitive depression in the elderly was 55.1%. Considering the WHOQOL-OLD total scores, educational level, nutrition, health assessment, pain, physical activity, leisure time, and use of mobile phones significantly affected the quality of life ($p<0.05$). The difference between age groups, marital status, people with whom they share the same house, pain status, and dependence on daily living activities was significant ($p<0.05$). The difference between age groups, gender, chronic disease status, health assessment, pain, sleeping pattern, physical activity, leisure time, and depression was significant ($p<0.05$).

Conclusion: Quality of life, dependency status, and depression in the elderly are affected by many variables, and comprehensive and cross-sectoral studies are required.

Keywords: Quality of life, activities of daily living, geriatric psychiatry, elderly



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Introduction

The number and rate of the population over 60 is increasing daily; it is expected to double from 12% to 22% in 2050 compared to 2015 (1). The data of the Turkish Statistical Institute show that while the population aged 65 and over was 8.5% in 2017 in Turkey, it will increase to 9.9% in 2022 (2). The quality of life and drawbacks of the elderly population should be examined because of the increase in older individuals in the world and Turkey and the problems experienced in old age. Increasing age increases the risk of chronic disease and dependence. Diseases such as hearing, vision, and movement-related losses, dementia, cardiovascular diseases, stroke, chronic respiratory diseases, diabetes, and osteoarthritis in individuals over 60 years of age can cause disability and death. In addition, older individuals show more depression symptoms than younger individuals. This situation is seen in 1 out of 10 older people, poses a risk for depression, and negatively affects the quality of life of the elderly (3). The World Health Organization reports that the prevalence rate of depression in individuals over 60 is 5.7% worldwide (4). Depression in the elderly: It may be related to situations such as loneliness, loss of a spouse, and dependence on daily activities (5,6). The presence of depression in an individual's history and family history may also pose a risk of depression in old age. This depression should not be confused with the sadness and mourning of individual experiences due to crises and stress. Untreated depression not only impairs the quality of life of the elderly individual but can also lead to dire consequences such as suicide if it becomes chronic in the individual (7). In the "Turkey Healthy Aging Action Plan and Implementation Program 2021-2026", it is expected that physiological changes with age will cause some adverse effects on quality of life. However, it is emphasized that treating chronic diseases, eliminating social and economic negativities, gaining healthy lifestyle behaviors for the elderly, and making the environment of elderly individuals healthy and safe are essential to prevent the dependence of the elderly and to enable them to live a better quality of life (8).

This study aims to determine the quality of life, prevalence of depression, and level of independence in activities of daily living in older people aged 65 years and over living in the city center of Bitlis and to identify the related factors.

Research Questions

1. What is the quality of life of individuals aged 65 years and over living in Bitlis city center?
2. What is the frequency of depression in individuals aged 65 years and over living in Bitlis city center?

3. What is the level of independence in daily life activities of individuals aged 65 years and over living in Bitlis city center?

4. Do socio-demographic characteristics affect the quality of life, frequency of depression, and level of independence in daily life activities of elderly individuals?

Material and Methods

This cross-sectional study was conducted on individuals aged 65 years and over in the city center of Bitlis from March to May 2018. The number of elderly individuals aged 65 and over, who were 3012 registered in the existing family health centers (FHC) at the time of the study, was obtained from the Provincial Directorate of Health, and the sample size was calculated as 338 people at a confidence interval of 95%. The sample size was weighted according to the population registered in 9 FHCs in the center of Bitlis. Despite the possibility of missing or incorrectly filled questionnaires, an additional two people were included in the study for each FHC, and 354 elderly individuals were reached. Participation in the study was based on volunteerism, and a face-to-face survey technique was used. Institutional permission was obtained from the Provincial Directorate of Health of Bitlis, and ethics committee approval was obtained from the Bitlis Eren University Ethics Committee with the decision dated 13.12.2017 and numbered 2017/12-IX.

Socio-demographic questions for individuals over the age of 65, "World Health Organization Quality of Life-Old Module (WHOQOL-OLD)", "Katz Index of Independence in Activities of Daily Living", and "Yesavage Geriatric Depression Scale" were used in the questionnaire form used to collect the data.

World Health Organization Quality of Life-Old Module

"WHOQOL-OLD" was developed as a result of research with the participation of 22 countries to be used in epidemiological studies in elderly groups, supported by the "World Health Organization Quality of Life Group" The Turkish validity and reliability study was performed by Eser et al. (9) in 2010. The Cronbach's alpha value is 0.85. Twenty-four and one hundred twenty points are obtained from this five-point Likert-type scale. The higher the score obtained from the scale, the better the individual's quality of life (9).

Katz Index of Independence in Activities of Daily Living

The Katz index of Independence in Activities of Daily Living was developed by Katz et al. (10) to determine the independence of older individuals in activities of daily living. A Turkish validity and reliability study of the scale was

conducted by Arik et al. (11) in 2015. The Cronbach's alpha value is 0.83. It has six items rated 1 point if the individual is independent in some activities for various activities of daily living and 0 if he/she is dependent. A total of 6 points indicate independence, and 0 points indicate complete dependence (11).

Geriatric Depression Scale

The geriatric depression scale was developed by Yesavage et al. (12) in 1983 to assess depressive status in elderly groups. The Turkish validity and reliability study was conducted by Ertan (13) in 1997. While each answer in favor of depression is evaluated as 1 point, the other answers are evaluated as 0 points. The scores obtained from this scale, which consists of 30 questions, range from 0 to 30. The scale is scored as follows: 0-10 points for "no depression", 11-13 points for "probable depression", and ≥ 14 points for "definitive depression" (13).

Statistical Analysis

The dependent variables were WHOQOL-OLD total score, independence index, and geriatric depression scale scores. In contrast, the independent variables were age, gender, educational background, people with whom they share the same house, number of chronic diseases, nutritional status, sleeping pattern, and mobile phone use. The data were analyzed using SPSS 16.0. In the Shapiro-Wilk test, it was observed that the data were not suitable for normal distribution ($p < 0.05$). WHOQOL-OLD total score, independence index, and geriatric depression scale scores were not normal distribution ($p < 0.05$). Chi-square test, Fisher's exact test, Mann-Whitney U test, Kruskal-Wallis analysis of variance, and Mann-Whitney U test with Bonferroni correction as a post-hoc test were used for statistical analysis. The significance value was set as $p < 0.05$ during the assessment.

Results

As seen in Table 1, 65.2% of the study group were aged between 65 and 74 years, 59.6% were female, and 56.2% were married. 67.8% of the participants were illiterate. 5.6% stated that they were employed, and 29.7% were retired. 48.9% of the participants stated that they lived with their partners.

Furthermore, 65.5% of individuals over 65 stated that they had a regular diet, and 47.2% stated that they slept regularly. 64.1% of the sample group rated their health as moderate. 43.5% of the elderly stated that they regularly did physical activity. 20.3% of the participants stated that they had no chronic diseases. 60.7% of the individuals in the sample group stated that they used mobile phones, and 28% stated that they spent their leisure time.

When the WHOQOL-OLD total score was examined according to some characteristics of the participants, the difference between the WHOQOL-OLD total score was not significant in terms of age groups, gender, people with whom they share the same house, and the number of chronic diseases ($p > 0.05$). The WHOQOL-OLD median total score of the participants who had a primary school and higher education stated that they had a regular diet, evaluated their health as excellent and moderate, and did not suffer from pain was significantly higher when compared with the other groups ($p < 0.05$). The WHOQOL-OLD median total score of those who performed physical activity, spent their leisure time, and used mobile phones was significantly higher than that of the other groups ($p < 0.05$) (Table 2).

Table 1. Distribution of socio-demographic characteristics of the participants

	n	%
Gender		
Male	143	40.4
Female	211	59.6
Marital status		
Married	199	56.2
Single or widow	155	43.8
Age group		
65-74	231	65.2
75-84	88	24.9
85 and above	35	9.9
Educational background		
Illiterate	240	67.8
Literate	63	17.8
Primary school and higher	51	14.4
Number of children		
No children	6	1.7
1-3	18	5.1
4-6	92	26.0
7-9	161	45.5
10 and more	77	21.8
Monthly income		
Low	117	33.1
Middle	205	57.9
High	32	9.0
People with whom participants share the same house		
Alone	22	6.2
With their partner	173	48.9
With their children or relatives	159	44.9
Total	354	100.0

Table 2. Comparison of WHOQOL-OLD total score in terms of some characteristics of the participants

Some characteristics	WHOQOL-OLD total score Min-med-max	p
Age group		
65-74	39-70-105	0.064*
75-84	37-71-104	
85 and above	39-60-100	
Gender		
Male	42-71-104	0.087**
Female	37-69-105	
Educational background		
Illiterate	37-66.5-105	<0.001*
Literate	42-71-104	
Primary school and higher ^a	54-80-104	
People with whom participants share the same house		
Alone	53-73.5-104	0.120*
With their partner	42-70-104	
With their children or relatives	37-69-105	
Number of chronic diseases		
None	39-69.5-104	0.994*
1	39-70-105	
2	37-70-100	
3 and more	42-70-101	
Nutritional status		
Regular	41-71-104	0.001**
Irregular	37-65-105	
Health assessment status		
Good	50-75-104	0.001*
Moderate ^b	42-72-105	
Poor	37-60.5-98	
Presence of pain		
Yes	37-67-105	0.001**
No	37-74-102	
Status of doing physical activity		
Yes	42-73-105	0.001**
No	37-67.5-104	
Status of spending leisure times		
Yes	41-74-104	0.001**
No	37-68-105	
Status of using mobile phone		
Yes	39-72-104	0.001**
No	37-65-105	

*Kruskal-Wallis test, **Mann-Whitney U test, ^a'Primary school and higher' different from illiterate and literate, ^b'Moderate' different from good and poor. WHOQOL-OLD: World Health Organization Quality of Life-Old Module, Min-med-max: Minimum, median, maximum

Table 3. Comparison of dependence status of the participants in terms of some characteristics of them

Some characteristics	Dependence status				p****
	Dependent		Independent		
Age group	n	%	n	%	
65-74 ^a	42	18.2	189	81.8	<0.001
75-84 ^b	35	39.8	53	60.2	
85 and above ^c	21	60.0	14	40.0	
Gender					
Male	43	30.1	100	69.9	0.409
Female	55	26.1	156	73.9	
Marital status					
Married	42	21.1	157	78.9	0.002
Single or widow	56	36.1	99	63.9	
Educational background					
Illiterate	73	30.4	167	69.6	0.22
Literate	15	23.8	48	76.2	
Primary school and higher	10	19.6	41	80.4	
People with whom participants share the same house					
Alone	5	22.7	17	77.3	0.008
With their partner	36	20.8	137	79.2	
With their children or relatives ^d	57	35.8	102	64.2	
Presence of pain					
Yes	75	31.8	161	68.2	0.015**
No	23	19.5	95	80.5	

****Pearson chi-square, ^{a, b, c}: '65-74', '75-84', '85 and above' are different from each other. ^d: 'With their children or relatives' different from 'alone' and 'with their partner'

Table 3 shows that the difference between the dependence status of the participants according to gender and educational background was insignificant ($p>0.05$). The dependence rate was 18.2% in the age group of 65-74 years, 39.8% in the age group of 75-84 years, and 60% in the age group of ≥ 85 , and all the groups differed from each other ($p<0.001$). The rate of dependence was significantly higher in those who were single or widowed (36.1%), those living with their children or relatives (35.8%), and those suffering from pain (31.8%) ($p<0.05$) (Table 3).

Table 4 compares some characteristics and depression status of the participants. 47.2% of the individuals in the age group of 65-74 years, 65.9% of the individuals in the age group of 75-84 years, 80.0% of the individuals aged 85 and over were at the level of definitive depression, and the difference between the age groups was significant ($p=0.001$). Those who were female, had three or more chronic diseases, assessed their health as poor, suffered from pain, had irregular sleeping patterns, did not perform physical activity, and did

not spend their leisure time had a significantly higher rate of definitive depression than the other groups ($p<0.05$) (Table 4).

Discussion

There was no significant difference in the WHOQOL-OLD total scores of the participants with regard to age group, gender, people with whom they share the same house, and number of chronic diseases. Similarly, many studies examining how a healthy lifestyle affects the quality of life in the elderly have reported no significant difference between the quality of life and age groups and gender (14,15). An international study reported no correlation between living alone or with someone and quality of life, which is compatible with this study (15). Another international study stated that quality of life scores decreased significantly in patients suffering from 5 or more diseases (16). Living with their partner or with someone for the elderly can be effective in meeting their needs and leading a regular life. The reason why there was no significant

difference between the people with whom they shared the same house and the quality of life in the present study may be due to the scarcity of elderly individuals living alone. Among the individuals over 65 who participated in the study, those with a higher educational level had a higher quality of life scale score. Likewise, a study conducted in Brazil on the elderly group indicated that the quality of life was enhanced in groups with higher educational levels (17). The quality of life of the

group who stated that they ate regularly, assessed their health as excellent and moderate, and did not have pain was higher. It has been reported in the literature that positive nutritional behaviors are the most crucial factor in terms of quality of life in advanced ages (18), and a conscious, healthy, and balanced diet enhances the quality of life (19). A study conducted with data obtained from cities selected from 20 countries found that satisfaction with health status significantly enhanced

Table 4. Comparison of depression status according to some characteristics of the participants

Some characteristics	Depression status						p*
	No depression		Probable depression		Definitive depression		
Age group	n	%	n	%	n	%	
65-74 ^a	87	37.6	35	15.2	109	47.2	0.001
75-84 ^b	20	22.7	10	11.4	58	65.9	
85 and above ^c	4	11.4	3	8.6	28	80.0	
Gender							
Male	57	39.8	20	14.0	66	46.2	0.011
Female	54	25.6	28	13.3	129	61.1	
People with whom participants share the same house							
Alone	6	27.3	4	18.2	12	54.5	0.449
With their partner	61	35.2	19	11.0	93	53.8	
With their children or relatives	44	27.7	25	15.7	90	56.6	
Number of chronic disease							
None ^d	39	54.1	4	5.6	29	40.3	<0.001
1	38	34.6	16	14.5	56	50.9	
2	27	24.8	20	18.3	56	50.9	
3 and more ^e	7	11.1	8	12.7	48	76.2	
Health assessment							
Good ^a	23	56.1	6	14.6	12	29.3	<0.001
Moderate ^b	78	34.4	37	16.3	112	49.3	
Poor ^c	10	11.6	5	5.8	71	82.6	
Presence of pain							
Yes	57	24.2	31	13.1	148	62.7	<0.001
No	54	45.8	17	14.4	47	39.8	
Sleeping pattern							
Regular	70	41.9	22	13.2	75	44.9	<0.001
Irregular	41	21.9	26	13.9	120	64.2	
Physical activity							
Yes	66	42.9	23	14.9	65	42.2	<0.001
No	45	22.5	25	12.5	130	65.0	
Status of spending leisure times							
Yes	46	46.5	20	20.2	33	33.3	<0.001
No	65	25.5	28	11.0	162	63.5	

*Pearson chi-square, ^{a, b, c}: '65-74', '75-84', '85 and above' are different from each other, ^{d, e}: 'None' and '3 and more' different from others

quality of life (20). A study conducted in Chile reported that the quality of life decreased significantly in individuals who described themselves as sick (21). In a study conducted in 2018 in Turkey, it was stated that pain caused problems in sleep, memory, and concentration in elderly individuals and decreased quality of life (22). A study conducted in a nursing home in İstanbul reported an increased quality of life in elderly individuals who did not experience pain (23). The quality of life was higher in the elderly who were physically active, spent their leisure time, and used mobile phones. International studies have found that physical activity positively affects the quality of life, and there is a significant correlation between physical activity and quality of life (15,24). The results of this study indicated that physical activity positively affects the quality of life, which is consistent with the literature. Physical activity reduces inactivity in the elderly in daily life, increases their well-being, and may enhance their quality of life.

A study conducted in Japan on elderly individuals over the age of 60 reported a positive correlation between spending leisure time and quality of life (24). Spending leisure time with elderly individuals may cause them to realize that their productivity continues and enhance their quality of life. A study conducted in 11 cities in the Black Sea, Central Anatolia, and Mediterranean regions demonstrated that information and communication technology can enhance the quality of life of elderly individuals (25). The present study was conducted in a province in eastern Turkey, and the use of mobile phones by elderly individuals living in this city, which has both climatic and geographical difficulties, can be very beneficial in terms of socialization and reaching needs.

There was no significant difference between the dependence status of individuals over 65 in the sample group according to gender and educational background. In a study conducted in Turkey, no correlation was found between gender and independence in activities of daily living (26), which is compatible with the present study. A study conducted in a nursing home in Kayseri reported that 9.8% of the illiterate elderly were dependent, and there was no dependence on the elderly with higher education (26). In this study, the dependence rate increased significantly in the groups with increasing age. Likewise, an international study indicated that as age increased, dependence and restriction in activities of daily living increased (27). Similar to this study, studies conducted in Karaman and Spain reported that married older people showed lower levels of dependence than their single counterparts (28,29). In this study, the dependence rate was significantly higher in the elderly living with their children or relatives. In an international meta-analysis study, it was

reported that living with people other than children and their partners was a risk factor for independence in activities of daily living (27). In a study conducted in Turkey, which supports this study, it was stated that pain has a negative effect on activities of daily living (30). Accompanying pain in health problems that cause dependence on activities of daily life may cause a high dependence rate in elderly individuals.

In this study, the level of depression increased with increasing age. Those who were female, had three or more chronic diseases, assessed their health as poor, had pain, irregular sleeping patterns, did not do physical activity, and stated that they did not spend their leisure time had a significantly higher level of depression than the other groups. In studies conducted in Turkey and abroad, similar to our study, the rate of depression increases significantly as the age group increases (31,32). A previous study reported no significant correlation between depression and age (33). As age progresses, physical health may deteriorate, resulting in a negative effect on mental health and an increase in the rates of depression. Similar to the present study, the results of a study on older people living in their homes and nursing homes in Bolu indicated that the mean score of depression in women was 10.21 and 6.69, in men and the difference was significant (34). Although national and international studies support the results of this study (31,35,36), in some studies, no significant difference was found between gender and depression (32,33,37). The fact that depression was higher in women in this study can be explained by the longer life expectancy in women than in men, and chronic diseases are more common; therefore, depression accompanies diseases. Similar to the present study, although studies have reported a significant difference in depression in patients with chronic diseases compared with those without chronic disease (32,36), there are also studies reporting no difference (31,35). Chronic diseases may negatively affect daily life in the elderly, sometimes cause problems in vital activities, and therefore may increase the rates of depression. Studies conducted in Turkey and South Africa reported that those who assessed their health as poor had a significantly higher risk of depression (31,38). The fact that individuals consider their health negatively may also have negatively impacted their mental health. In some national and international studies, similar to this study, it was stated that pain was associated with an increase in the level of depression (35,39). Pain may be associated with fatigue, sleep disorders, and memory and concentration problems in elderly individuals, and depression may accompany these conditions. Similar studies have reported that sleep disorders may impair mental health, and depression may cause sleeplessness (38,39). While there are

studies stating that high physical performance is associated with low depression symptoms (39) and supporting the present study, there are also studies in which the difference is not significant (33). National and international studies have reported that increasing leisure activities significantly reduces depressive symptoms (40). The fact that the elderly are engaged in hobbies during their leisure time can make them feel good regarding mental health.

Study Limitations

The limitations of this study are that it covers a provincial center, is conducted within a certain period of time, and cannot be generalized to the whole country. In addition, the limitations of the study are that the data were obtained through a questionnaire based on verbal statements.

Conclusion

Efforts to protect and improve the health of the elderly should be carried out more effectively, and health and social services for the elderly should be increased. Public health interventions and policies planned for these purposes should be implemented comprehensively. "Lifelong Learning" programs and effective preventive health services should be

offered to the elderly, physical activity should be encouraged, leisure time activities should be increased, and hobby centers should be established. Care should be taken to diagnose and treat mental health issues in elderly individuals.

Ethics

Ethics Committee Approval: Institutional permission was obtained from the Provincial Directorate of Health of Bitlis, and ethics committee approval was obtained from the Bitlis Eren University Ethics Committee with the decision dated 13.12.2017 and numbered 2017/12-IX.

Informed Consent: Written and verbal consent was obtained from older who agreed to participate in the research.

Authorship Contributions

Concept: F.S., A.Ö., Design: F.S., Data Collection or Processing: F.S., A.G., Analysis or Interpretation: F.S., A.G., A.Ö., Literature Search: F.S., A.G., Writing: F.S., A.G., A.Ö.

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