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RESEARCH ARTICLE

Dependence Level and Quality of Life of Older Adults Living in Nursing Home

Semra Gündoğdu[1*], Fatma Arıkan[1] and Gökhan Keser[2]

[1]*Faculty of Nursing, Akdeniz University, Antalya, Turkey*

[2]*Faculty of Medicine, Ege University, İzmir, Turkey*

***Corresponding author:** *Semra Gündoğdu, RN, PhD, Faculty of Nursing, Akdeniz University, 07058, Antalya, Turkey, Tel: +90-242-301-69-01*

Abstract

Purpose: The older adults, in particular, care more about quality of life than longevity. Therefore, initiatives for the elderly should focus on increasing the quality of their life. Many factors affect the older adults' quality of life, but their dependence level is the most important. This study examined the effect of dependence level on quality of life for older adults living in nursing homes.

Methods: The sample of this descriptive, cross-sectional study included 109 older adults who lived in nursing homes. Data were collected using the Older Adult Information Form, World Health Organization Quality of Life Scale Brief Form Turkish Version and Barthel Index.

Results: The mean age of the older adults were 73.92 ± 9.36 years and the mean duration of their stay in a nursing home was 3.61 ± 3.22 years. Their Barthel Index score was 89.35 ± 21.39 and quality of life score was 88.33 ± 16.62.

Discussion: The older adults in nursing homes had a medium level of independence. Being female and having low levels of education, chronic diseases, and hearing loss negatively affected independence levels and quality of life. Relevant initiatives that increase the functional independence of older adults should be supported because these practices will also increase their quality of life.

Keywords

Older adults, Functional status, Nursing home, Quality of life

Introduction

The number of older adults are increasing and societies are gradually growing older due to extended lifetimes both in Turkey and around the world [1]. The proportion of older adult in the population of Turkey is predicted to increase to 10.2% by 2023 [2]. Developments in the health care systems resulted in a decrease in the number of deaths and longer life expectancy [3]. Aging is a multidimensional term with biological, social, economic, and cultural aspects. Maintaining the highest possible level of independence is important for a healthy aging process. In older adults, the risk of decreased independent functions increases with the development of chronic diseases. This often increases their demand for special care and support [4-6].

There are many definitions regarding quality of life. In brief, a good quality of life includes being pleased with life and happy [1]. The World Health Organization defines quality of life as an individual's perception of their goals, expectations, concerns, and social relations in their culture and value system [7]. The older adults, in particular, care more about quality of life than longevity [6]. Therefore, initiatives for older adults should focus on increasing the quality of their life [8]. Many factors affect the older adults' quality of life, but their dependence level is the most important. The older adults who do not rely on somebody else to meet their daily needs and can act freely, known as self-care ability, have a higher quality of life [9]. Some studies found a negative relationship between increased age and quality of life [1,8]. Quality of life is affected by an individual's residence, experiences, physical and mental health, and independence level [1,7]. Problems associated with increasing age and a higher prevalence of chronic dis-

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eases negatively affect the older adults' quality of life [1]. Older individuals often prefer to live in their own homes until the end of life. However, this may not be possible in situations that require a high level of care or for non-caregivers [10]. Therefore, nursing homes play a complex role in the health system and have to meet the needs of the diversity of an aging population in society. Nursing homes in Turkey are official institutions that operate under the Ministry of Family and Social Policies to protect, care for, and meet the social and psychological needs of the older adults aged 60 years or older [11]. Social changes occurring in Turkey, including an increased number of nuclear families, particularly in urban areas; increased outside employment of women, who usually are responsible for care giving; and negative attitudes towards the older adults, make home care difficult and increase the need for institutional care. Those who have increased care needs and do not have adequate support generally prefer nursing homes [7,12]. For older people living in a nursing home, life satisfaction is not only related to one's functional independence level, but also depends on socio-demographic characteristics such as income, social life, education, factors affecting the decision to stay in a nursing home [13]. However, little attention has been paid to this issue in the literature. The questions of this study; older adults living in nursing homes; 1) What is sociodemographic characteristics and health status 2) How is living independently? 3) What are the factors affecting quality of life?

Materials and Method

Sample

This was a descriptive, cross-sectional study. The study population included 150 older adults living in five nursing homes in Antalya city center. Data collected in April and May 2016. This study completed with 109 older adults who met the inclusion criteria (response rate 72.66%). Inclusion criteria were living in a nursing home for at least six months, being 60 years of age and older, and having no health problems hindering verbal communication.

Data collection

The data were collected using the Older Person Information Form developed by the researchers. It included questions about sociodemographic characteristics, health state, and nursing home life; the World Health Organization Quality of Life Scale Brief Form Turkish Version (WHOQOL-BREF-TR); and the Barthel Index (BI). The participants completed the forms using the face to face interview technique for approximately 20 to 25 minutes at a time.

Older person information form: This form includes questions about gender, marital status, children, income status, health state, chronic diseases, the reason for staying in the nursing home, the person who made the decision about the nursing home, frequency of visitors, and previous lifestyle [8,12].

Barthel index: The Barthel Index (BI) was developed by Mahoney and Barthel in 1965 and modified by Shah, et al. [14]. Küçükdeveci, et al. arranged the Turkish version of the scale. This scale consists of 10 items regarding mobility such as nutrition, bathing, self-care, dressing, control of defecation, control of urination, going to the toilet, stair climbing, ability to transfer from bed to wheelchair, and ability to walk or being wheelchair-bound. The main purpose is to determine the extent to which patients can perform these activities on their own without receiving any physical or verbal support. The scores could range from 0 to 100. Higher scores indicate a higher level of patient independence and increased ability to live on their own. The scoring in this scale is 0-20 = fully dependent, 21-61 = highly dependent, 62-90 = moderately dependent, 91-99 = mildly dependent, 100 = fully independent [15]. In this study, BI was evaluated by researcher nurse.

WHOQOL BREF-TR scale: The WHOQOL-100 developed as a quality of life assessment instrument. WHOQOL-BREF is short form of the WHOQOL [16]. Apart from two questions about the individual's quality of life and health, this five-point Likert-type scale includes items measuring the well-being of the individuals using four subscales: Physical health (seven items), mental/physiological state (six items), social relations (three items), and environmental (eight items) domains. The original version of the scale includes 26 items; however, the Turkish version includes 27 items (with a national question: Do you have pressure and control problems in your relations with people who are close to you in your life). The questions were answered considering the last 15 days. As scores increase, quality of life also increases [17]. The validity and reliability of the Turkish version were tested by Fidaner, et al. The lowest score on the scale is 27 and the highest score is 135. The Turkish version includes physical, social, environmental, and national environmental domain subscales [18]. In the present study, Cronbach's alpha score for the WHOQOL-BREF-TR was 0.922.

Data analysis

The data were evaluated using the SPSS 22 statistical software package. The sociodemographic characteristics of the nursing home residents were evaluated using percentage, mean, and standard deviation of the scores. The sociodemographic characteristics of the participants and the differences between the mean scores were analyzed using the Student's t test and analysis of variance, and the relationships between the scales were examined using Pearson correlation analysis. The results were evaluated using a

Table 1: Sociodemographic characteristics and health status of the elderly living in nursing homes (n = 109).

Variable	n	%
Gender		
Female	43	39.4
Male	66	60.6
Marital Status		
Married	7	6.4
Single	34	31.2
Widowed	68	62.4
Having children		
Yes	90	82.6
No	19	17.4
Education status		
Primary school	48	44.0
Secondary school	14	12.8
High school	14	12.8
University	13	11.9
İlliterate	20	18.3
İncome Levels		
Poor	35	32.1
Very	18	16.5
Equal	56	51.4
Health State		
Well	49	45.0
Middle	45	41.3
Poor	15	13.8
See Loss		
Yes	40	36.7
No	69	63.3
Hearing Loss		
Yes	34	31.2
No	75	68.8
Chronic Illness		
Yes	73	67.0
No	36	33.0
	Mean ± SD*	Min - Max
Age	73.92 ± 9.36	50-96
Nursing home stay (years)	3.61 ± 3.22	1-15

*Standard Deviation.

Table 2: Choices and visitor status of the elderly living in nursing home.

Variables	N (109)	%
Previous Life Style		
Lived Alone	57	52.3
Family	44	40.4
Relative	7	6.4
Other	1	0.9
The reason for choosing a nursing home		
Unable to take care of oneself alone	56	51.4
I have no one	7	6.4
My family does not accept	9	8.3
I do not want to be a impose my Family	16	14.7
I do not want to be alone	20	18.3
Other	1	0.9
The decision on staying in nursing home		
My decision	82	75.2
Both mine and of my children	20	18.3
Of my children	7	6.4
Visitors		
Had no visitors	41	37.6
One or two days a week	27	24.8
Every fifteen days	11	10.1
Once in a month	26	23.9
Other	4	3.7

Table 3: WHOQOL-BREF-TR and BI Scores of the Elderly.

Scales	Mean ± SD*	Min.	Max.
WHOQOL-BREF-TR			
Physical	66.51 ± 22.58	7.14	100.00
Psychological	66.32 ± 20.68	12.50	100.00
Social	52.90 ± 20.86	0.00	100.00
Environment	67.94 ± 18.00	6.25	100.00
Environment TR	62.33 ± 15.62	5.56	91.67
Barthel Index	89.35 ± 21.39	0.00	100.00

*Standard Deviation.

95% confidence interval and p values lower than 0.05 were accepted as statistically significant.

Results

The characteristics of the older adults in nursing homes (n = 109) are shown in Table 1 and Table 2. The mean age was 73.92 ± 9.36 years and the mean duration of their stay in the nursing home was 3.61 ± 3.22 years. Of the older adults, 60.6% were male, 62.4% were widowed, 44.0% were primary school graduates. Regarding income levels, 51.4% had an income equal to their expenses. Although 45.0% considered their health state to be satisfactory, 36.7% were sight-disabled and 31.2% had hearing loss and the rate of chronic diseases was 67%. Of the older adults who lived in nursing homes, 52.3% previously lived alone and 40.4% previously lived with family. Many participants (51.4%) preferred the nursing home because they were unable to take care of themselves, 18.3% did not want to stay alone. Therefore, 75.2% made the decision to stay in a nursing home on their own.

BI and WHOQOL-BREF-TR scale and subscale scores of the older adults are shown in Table 3. The mean BI score of the elderly was 89.35 ± 21.39, their mean WHOQOL-BREF-TR quality of life score was 88.33 ±

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Table 4: WHOQOL-BREF-TR and BI Scores of the Elderly According to Sociodemographic Characteristics.

Variables	*WHOQOL-BREF-TR*					*Barthel Index*
	Physical	**Psychological**	**Social**	**Environment**	**Environment TR**	
	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD
Gender						
Female	55.39 ± 21.65	59.49 ± 21.44	49.80 ± 15.26	64.46 ± 16.88	59.56 ± 14.15	77.55 ± 29.22
Male	73.75 ± 20.22	70.77 ± 19.05	54.92 ± 23.70	70.21 ± 18.46	64.14 ± 16.36	97.04 ± 7.54
t/p	-4.503/< 0.001	-2.873/0.005	-1.255/0.212	-1.644/0.103	-1.505/0.135	-5.171/< 0.001
Education Status						
Primary School	66.51 ± 22.98	67.96 ± 19.93	56.25 ± 18.87	72.52 ± 15.06	66.78 ± 13.17	88.12 ± 23.48
Secondary School	73.72 ± 15.38	68.15 ± 16.31	60.71 ± 18.89	71.65 ± 16.64	65.07 ± 14.80	95.35 ± 11.00
High School	67.85 ± 17.27	65.77 ± 19.14	49.40 ± 19.46	64.50 ± 17.36	59.52 ± 14.76	92.14 ± 12.20
University	79.12 ± 20.76	77.88 ± 17.62	53.84 ± 21.68	72.11 ± 17.18	65.38 ± 14.19	96.53 ± 12.48
İlliterate	52.32 ± 24.34	53.95 ± 23.62	41.25 ± 23.79	54.06 ± 20.30	49.72 ± 17.21	81.50 ± 28.61
F/p	3.692/0.007	3.137/0.018	2.612/0.040	4.789/0.001	5.305/0.001	1.437/0.227
Chronic Illness						
Yes	60.86 ± 22.64	61.98 ± 21.69	51.59 ± 21.45	65.49 ± 19.26	60.42 ± 17.00	86.09 ± 23.30
No	77.97 ± 17.79	75.11 ± 15.28	55.55 ± 19.61	72.91 ± 14.09	66.20 ± 11.62	95.97 ± 15.11
t/p	-3.967/0.000	-3.252/0.002	-0.931/0.354	-2.054/0.042	-1.835/0.069	-2.311/0.023
The decision on staying in nursing home						
My decision	69.99 ± 20.35	69.61 ± 19.20	56.50 ± 20.11	70.19 ± 18.16	64.19 ± 16.05	94.45 ± 13.12
Of my children	58.92 ± 24.18	62.08 ± 18.38	45.00 ± 19.00	65.62 ± 10.13	60.27 ± 8.16	75.00 ± 31.66
Both mine and of my children	47.44 ± 30.84	39.88 ± 25.09	33.33 ± 19.83	48.21 ± 22.66	46.42 ± 18.61	70.71 ± 35.98
F/p	4.930/0.009	8.122/0.001	6.301/0.003	5.422/0.006	4.680/0.011	11.288/< 0.001
Hearing loss						
Yes	59.76 ± 23.92	57.47 ± 20.48	45.09 ± 16.03	64.06 ± 17.37	58.90 ± 14.64	81.61 ± 30.11
No	69.57 ± 21.41	70.33 ± 19.62	56.44 ± 21.90	69.70 ± 18.11	63.88 ± 15.89	92.86 ± 14.95
t/p	-2.134/0.035	-3.126/0.002	-2.707/0.008	1.526/0.130	-1.553/0.123	-2.610/0.010
Health state						
Well	75.94 ± 17.47	74.31 ± 15.55	53.57 ± 19.76	72.95 ± 13.00	65.64 ± 11.42	96.12 ± 9.25
Middle	63.41 ± 21.03	62.03 ± 21.21	54.07 ± 21.29	66.31 ± 18.14	61.79 ± 16.42	87.22 ± 22.52
Poor	45.00 ± 25.64	53.05 ± 24.21	47.22 ± 23.49	56.45 ± 25.45	53.14 ± 21.41	73.66 ± 34.71
F/p	14.354/< 0.001	8.830/< 0.001	0.648/0.525	5.571/0.005	3.922/0.023	7.514/0.001

[*]Standard Deviation.

Table 5: Correlation between WHOQOL-BREF-TR and BI.

		WHOQOL-BREF-TR				
		Physical	**Psychological**	**Social**	**Environment**	**Environment TR**
WHOQOL-BREF-TR						
Physical						
Psychological	r	0.759[**]				
Social	r	0.435[**]	0.506[**]			
Environment	r	0.653[**]	0.752[**]	0.569[**]		
Environment TR	r	0.614[**]	0.713[**]	0.580[**]	0.985[**]	
Barthel Index	r	0.563[**]	0.421[**]	0.311[**]	0.346[**]	0.333[**]

[**]p < 0.001.

16.62, their mean physical subscale score was 66.51 ± 22.58, their mean psychological subscale score was 66.32 ± 20.68, their mean social subscale score was 52.90 ± 20.86, their mean environmental subscale score was 67.94 ± 18.00, and their mean national environmental subscale score was 62.33 ± 15.62.

WHOQOL-BREF-TR and BI scores of the older adults' according to sociodemographic characteristics are seen in the Table 4. The female nursing home residents' mean physical and psychological subscale scores on the quality of life scale and BI were lower than the males. The mean quality of life subscale scores of the illiterate older adults were lower than the educated older adults scores. The mean scores of older adults with a chronic disease were lower on the physical, psychological, and environmental domains of the quality of life scale and BI than those without a chronic disease. The scores of the older adults who made the own decision to stay in a nursing home on all quality of life subscales and BI were higher than those whose family made the decision. The mean scores of older adults with hearing problems were lower on the physical, psychological, and social subscales of the quality of life scale and BI than those with normal hearing. The mean scores of older adults who considered their health state poor were lower on the physical, psychological, environmental, and national environmental domains of the quality of life scale and BI than those who rated their health higher.

Correlation between WHOQOL-BREF-TR and BI are shown in the Table 5. This study found a moderate, significantly positive relationship between the mean scores for physical health, psychological and social relations, environmental and national environmental domains, and for BI ($p < 0.01$).

Discussion

This study examined the dependence level and quality of life of older adults using sociodemographic and health data and found that most of older adults residents staying in nursing homes were male. A previous study conducted in Turkey in 2015 showed that, of the older adults population aged 65 years or older, 17.6% lived alone in their homes and 77% of the individuals who lived alone were females [19]. Aylaz, et al. found a higher rate of males living in nursing homes than females, which was similar to the results of the present study. Males are more dependent than females regarding meeting self-care needs, which may be the reason why males prefer nursing homes [20]. The health state of older adults females was worse than that of the older adults males [2]. In this study, the females' mean physical and psychological subscale scores on the quality of life scale and BI were lower than the males. Women have more health problems, which may lead to a decrease in their life quality. In a study conducted by Kılıç, et al., the life satisfaction of males was higher than that of females [8]. Physical changes and diseases that occur with aging can lead to retardation in activities and loss of function. Since this is more commonly observed in older adults females, their social and physical dependence levels are higher than males [21].

The mean quality of life subscale scores of the illiterate older adults were lower than that of the educated older adults. As the education levels of older adults increase, their life satisfaction also increases. In the study of Kılıç, et al., the mean scores of older adults with high education levels on life satisfaction, the meaning of life, and seeking the meaning of life subscales were high [8]. The educated people were successful in adapting to changing conditions and society. Human personality development and capability level increase with education, which positively affects the quality of life in old age [22].

In the present study, 55.1% of the older individuals considered their health moderate or poor and the rate of people with a chronic disease was 67%. Arpacı reported that 84.6% of the older adults in their study had health problems [12]. In the present study, the mean scores of the older adults who considered their health poor were lower on the physical, psychological, environmental, and national environmental domains of the quality of life scale and BI than those who rated their health moderate or above. The mean scores of older adults who had a chronic disease were lower on the physical, psychological, and environmental domains of the quality of life scale and BI than those without a chronic disease. Chronic diseases occurring with increased negatively affect quality of life [8]. There are differences in the prevalence of morbidity in the older adults (75%-95%). This may be due to differences in racial, ethnic origin and sociodemographic differences in the study populations [23,24]. Multiple morbidities lead to physical and cognitive decline, weakness, loss and refusal of socialization, limitation of daily life and poor quality of life in elderly people [5,9].

The mean BI score obtained was 89.3, which showed the participants were moderately dependent. This study found a moderate, significantly positive relationship between the mean scores on the physical health, psychological, social relations, environmental, and national environmental domains of the quality of life scale and BI. Chronic diseases and disabilities increase based on the population age, which leads to increases in the rate of dependence. Furthermore, dependence, loss of roles, and social and economic problems as a result of withdrawing from production are increasing widely. Functional disabilities of the older adults lead to changes in their quality of life [8,9]. Altuğ, et al. found the quality of life of older adults with a chronic disease was lower than for those without a chronic disease. Chronic health problems that occur with aging negatively affect the independence levels of patients, causing dependence on others [25].

The older adults who had hearing problems had lower mean scores on the physical, psychological, and social subscales of quality of life and BI than those without hearing problems. With increasing age, auditory system damage occurs. Untreated hearing loss causes an older individual to experience several emotional, cognitive, and social problems. Individuals suffering from hearing loss feel social isolation and exclusion. Because of these problems, their quality of life decreases. A study conducted by Saatci and Polat investigated how much the problems caused by hearing loss in the older adults affected their quality of life and showed a significant relationship between hearing loss and decreased quality of life. Hearing loss in the older adults are accompanied by mental, social, and cognitive problems resulting in a decreased quality of life. Moreover, in the older adults with hearing problems, the ability to act independently is negatively affected over time [26-28].

This study found that 52.3% of the older adults lived alone and 40.4% lived with their families before they came to the nursing home. The study showed that failure to perform self-care and unwillingness to stay alone or impose on their families were among the reasons why the older adults resided in a nursing home. Thus, 75.2% made the decision to stay in a nursing home on their own. Similar to the results of the present study, previous studies also emphasized that many older adults decided on their own to stay in a nursing home. Physical and functional disabilities that occur with aging cause the older adults to be dependent on others to meet their daily needs. Failing to have sufficient support in their living quarters is an important issue for the older adults causing them to prefer nursing homes [7,29]. Cognitive and functional losses experienced by the older adults result in a loss of self-determination, and the inability to make decisions about their life leads to a decreased quality of life. This study found that older adults people who made their own decision to stay in a nursing home had a higher quality of life than those that their families made the decision. Better functional state and preservation of self-determination had a positive effect on the quality of life [7,29,30].

Conclusions

This study found that older adults in nursing homes had a medium level of dependence. Dependence levels and quality of life were negatively affected by being female, low levels of education, chronic diseases, and hearing loss. As the older adults' functional independence increased, their quality of life also increased. This study concluded that most of older adults made the decision to stay in a nursing home on their own, which resulted in a higher quality of life than those who moved due to familial pressure. Relevant initiatives that increase the functional independence of older adults and support active aging should be promoted because these practices increase older adults' quality of life.

Compliance with Ethical Standards

Ethical approval

Written permissions were obtained from the institutions where the study was conducted and the Akdeniz University Faculty of Medicine Head of Clinical Research Ethics Committee with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

Conflicts of interest

The authors have no conflicts of interest to declare.

Informed consent

The participants were informed about the study beforehand and written and verbal consents were obtained.

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