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The Effect of Loneliness, Depression and Death Anxiety on Self-Neglect of the Elderly

Yaşlının Kendini İhmal Etmesinde Yalnızlık, Depresyon ve Ölüm Kaygısının Etkisi

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ABSTRACT

The elderly population is increasing in Turkey, as is the case in the whole world. The aging of the population brings with it healthcare issues associated with old age, especially public healthcare issues such as self-neglect, loneliness, depression, and death anxiety. In this regard, it is important to identify self-neglect and effective risk factors. In the present study, the purpose was to examine the relationship between the self-neglect of the elderly and loneliness, depression, and death anxiety. The study was planned in a descriptive-correlational design and was completed with 176 elderly individuals who agreed to participate in the study. The study data were collected with the Elderly Individual Identification Form, which consisted of five parts, the Self Neglect Scale for the Elderly, the Loneliness Scale for the Elderly, the Geriatric Depression Scale, the Templer's Death Anxiety Scale using the face-to-face interview technique. In the elderly, Self-Neglect was explained by the variables of loneliness, depression, and death anxiety at a rate of 44.4% (R2 = 0.444). Depression (ß=0.184) and Death Anxiety (ß=0.584) increased the total level of self-neglect in the elderly. Loneliness did not affect the total level of self-neglect in the elderly ($p>0.05$). The loneliness levels of the elderly who were living alone were found to be higher than those living with their spouses and children ($p<0.05$). Depression and death anxiety increase the level of self-neglect in the elderly. It can be argued that the death anxiety of elderly individuals is the variable that most affects self-neglect. Depression and death anxiety increase the level of self-neglect in the elderly. It can be argued that the death anxiety of elderly individuals is the variable that most affects self-neglect. Early detection of depression that may develop in old age and initiation of treatment, investigation of factors that affect death anxiety, and planning psychoeducational intervention studies for these factors are important in preventing the self-neglect of the elderly.

Keywords: Elderly, Death Anxiety, Depression, Loneliness, Self-neglect

ÖZ

Tüm dünyada olduğu gibi Türkiye'de de yaşlı nüfus artmaktadır Nüfusun yaşlanması ise yaşlılıkla ilgili sağlık sorunlarını özelliklede kendini ihmal, yalnızlık, depresyon, ölüm kaygısı gibi halk sağlığı konularını gündeme getirmektedir. Kendini ihmalin ve etkili olan risk faktörlerinin tespit edilmesi önemlidir. Bu çalışmada, yaşlının kendini ihmal etmesi ile yalnızlık, depresyon ve ölüm kaygısı arasındaki ilişkisinin incelenmesi amaçlanmıştır. Bu araştırma ilişki arayıcı ve tanımlayıcı desende planlanmış ve araştırmaya katılmayı kabul eden 176 yaşlı birey ile tamamlanmıştır. Araştırma verileri beş bölümden oluşan yaşlı birey tanıtım formu, Yaşlılarda Kendini İhmal Ölçeği, Yaşlılar İçin Yalnızlık Ölçeği, Geriatik Depresyon Ölçeği, Templer'in Ölüm Anksiyetesi Ölçeği kullanılarak yüz yüze görüşme tekniği ile toplanmıştır. Yaşlılarda kendini İhmal %44,4 oranında yalnızlık, depresyon, ölüm kaygısı değişkenleri ile açıklanmaktadır (R^2=0,444). Depresyon(ß=0,184) ve Ölüm Kaygısı (ß=0,584) yaşlılarda kendini ihmal toplam düzeyini arttırmaktadır. Yalnızlık yaşlılarda kendini ihmal toplam düzeyini etkilememektedir**.** ($p>0.05$). Yalnız yaşayan yaşlıların yalnızlık düzeyleri eş ve çocukları ile yaşayanlara göre yüksek bulunmuştur ($p<0.05$). Depresyon ve Ölüm kaygısı yaşlılarda kendini ihmal düzeyini arttırmaktadır. Yaşlı bireylerin ölüm kaygısının kendini ihmali en çok etkileyen değişken olduğu söylenebilir. Yaşlılık döneminde gelişebilecek depresyonun erken fark edilmesi ve tedaviye başlanması, ölüm kaygısını etkileyen faktörlerin yaşlılarda araştırılması ve bu faktörlere yönelik psikoeğitim müdahale çalışmalarının planlanması yaşlıların kendini ihmal etmesinin önüne geçilmesinde önemlidir. Bu araştırma kendini ihmal ile depresyon, yalnızlık, ölüm kaygısı ilişkisini inceleyen özgün bir çalışmadır ve yaşlıya sağlık hizmeti sunumunda bütüncül yaklaşımın önemli olduğunu göstermektedir.

Anahtar Kelimeler: Depresyon, Kendini İhmal, Ölüm Kaygısı, Yalnızlık, Yaşlı

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INTRODUCTION

Aging is a process with biological, chronological, and social aspects that cannot be averted.[1] Any change in these aspects of the elderly might pave the way for the elderly to be sensitive and experience various psychological problems. Psychological problems might cause self-neglect in the elderly over time.[2] Self-neglect of the elderly is defined as the failure to take the actions that are required to live in a healthy and safe environment and refusing to take these actions.[3]

Although the world population was 7 billion 831 million 718 thousand 605 in 2021, 764 million 321 thousand 142 people, which corresponds to 9.8% of these people, were recorded as the "elderly population". The population aged 65 and over, which is considered the elderly population, increased by 24.0% in the last five years in Turkey, reaching 8 million 245 thousand 124 people in 2021. The rate of the elderly population in the total population increased to 9.7% in 2021. According to population projections, it is predicted that the rate of the elderly population will be 11.0% in 2025, 12.9% in 2030, 16.3% in 2040, 22.6% in 2060, and 25.6% in 2080.[3] As the aging of the population may cause an increased number of elderly people who neglect themselves, it is also important to determine the risk factors affecting the elderly's own neglect. It is very difficult to detect the self-neglecting elderly person in the early period. There are two important reasons for this. Firstly, self-neglect progresses slowly and insidiously in the elderly, and it is difficult for family members and working professionals to detect related risk factors.[2,4] The second is the lack of awareness of the elderly to protect themselves from the losses that may occur because of biological aging. When the neglect of the elderly is not detected and treated, health problems of the elderly that can be easily prevented or controlled may worsen.[4,5] The self-neglect of the elderly may be associated with many negative outcomes such as loneliness, depression, and death anxiety, as well as fragility, fractures, untreated pain, fall, and early hospitalization.[6-11] One of the effective variables in the self-neglect of the elderly is loneliness, which develops with decreased social support. The inadequacy of the emotional support system and the limited friendship relations increase the loneliness of the elderly.[7] On the other hand, the family structure in society, the lifestyle, and changes in the roles of the elderly in the family cause the elderly to experience more loneliness. As a result of the deterioration of physical and psychological health in elderly individuals who are left alone,[8] self-neglect begins. Loneliness is also a risk factor that leads the elderly to depression.[9] Depression in the elderly can be effective in self-neglect of the elderly because it will cause decreased cognitive abilities of the person, sleep problems, loss of energy, and a decrease in movements, appetite, and concentration disorders.[12] Psychological problems such as depression in old age can trigger insomnia, regression in motor movements, agitation, thoughts of death, and therefore, thoughts of self-destruction. Henrikson et al. (1995) stated that the mortality rate because of self-destruction was higher in the depressed elderly than in young individuals, and the reason was loneliness.[13] Death anxiety, which is one of the most important problems of old age, reducing the quality of life by negatively affecting the life of the elderly, must not be neglected. Some elderly people worry about the loss of their relatives, their expectation of death, physical disabilities, and the fact that the elderly think that their death row is close11 affects the psychological health of the elderly negatively.[10] Also, it was reported that self-neglect is an independent risk factor for death.[2]

Aims and Hypotheses

In the present study, the purpose was to examine the effect of the relationship between loneliness, depression, and death anxiety, which are associated with each other, on the self-neglect of the elderly. In

this context, answers to the following questions were sought.

(1) Is there a relationship between the elderly's own neglect and loneliness, depression, and death anxiety?

(2) What are the elderly's self-neglect, loneliness, depression, and death anxiety levels?

(3) Is there a relationship between some socio-demographic characteristics of the elderly and their own neglect, loneliness, depression, and death anxiety?

MATERIAL AND METHOD

Research Design

The study was conducted in descriptive-correlational design. The population of the study consisted of patients who were aged 65 and over and who were hospitalized for treatment in the Rehabilitation Hospital in a city located in the Western part of the Black Sea Region of Turkey between 01.12.2021 and 01.06.2022.

Setting and Participant

The size of the sample was calculated with the sample formula of the unknown population and determined as n=(1.96)2 (0.1) (0.9) / (0.05)2= 138. The sample was large and completed with 176 elderly individuals in terms of the reliability of the study. Individuals who were aged 65 and over who were completely volunteers were included in the study, who had the cognitive competence to answer the voluntary data collection tools, were not diagnosed with psychiatric disease, and had no communication problems (i.e., hearing, language, comprehension, etc.), those with clinically diagnosed dementia were not included. The study data were collected by the researchers with face-to-face interview techniques three days a week with the individuals who met the inclusion criteria. Before the data collection, individuals were informed about the study, and their written consent was obtained with an informed consent form.

Ethical Considerations

The study adhered to the Declaration of Helsinki principles. The written approval was obtained from the Non-Interventional study Ethics Committee of a University (decision dated 01/11/2021 and numbered 2021-2) and from the hospital where the study would be conducted (dated 22/11/2021, 20064918-710.99-99-2886). Written informed consent was obtained from the participants who met the inclusion criteria and agreed to participate in the study. Permission was obtained from the researchers who developed the scales used.

Data Collection Tools

The study data were collected by using a face-to-face survey technique, using a form that consisted of an Individual Information Form, Self Neglect Scale of the Elderly (SNSE), Loneliness Scale for the Elderly (LSFE), Geriatric Depression Scale (GDS), and Templer's Death Anxiety Scale.

Individual Descriptive Form

It is a form that consisted of 6 questions in total, prepared by the researchers to determine the introductory characteristics of the participants.

Self Neglect Scale of the Elderly (SNSE)

The scale was developed by Iris et al. to create a conceptual model for professionals working with the elderly. There are 73 items and six factors in the original scale. In the Turkish adaptation study, the SNSE consisted of 60 items and four sub-dimensions (social network, physical health, environmental health, and psychological health). The environmental health factor is divided into sub-factors (physical living conditions, financial issues, and personal living conditions). The psychological health factor consists of two sub-factors (personal risk and psychological health). In total, the highest score that can be obtained from the scale is 300, and the lowest score is 60, and an increase in the score means that the risk of self-neglect increases in the elderly. Turkish

validity and reliability study was conducted by Özmete et al. (2018)[14]

Loneliness Scale for the Elderly (LSFE)

The scale developed by John Gierveld and Kamphuis[15] and revised by Tilburg and John-Gierveld to measure the loneliness level of elderly individuals was developed based on the cognitive-behavioral approach.[16] It was validated for Turkish by Akgül and Yeşilyaprak.[17] Five items (1, 4, 7, 8, 11) of the scale, which consists of 11 items and two sub-dimensions, are positive. Six of the items (2, 3, 5, 6, 9, 10) that measure social loneliness in the scale measure negatively and the other items measure emotional loneliness. The scale is in 3-point Likert type and the sum of the two sub-dimensions gives the overall loneliness score (0=yes, 1=maybe, 2=no). The minimum score to be received from the scale is 0, and the maximum score is 22. The Chronbach alpha value of the scale was found to be 0.85.20

Geriatric Depression Scale (GDS)

Geriatric Depression Scale was developed by Yesavage et al. in 1983. The validity and reliability study of the scale, which was developed to investigate depression in the geriatric population in our country, was performed by Ertan and Eker (1997)[18] It is a short scale easy to apply since it is designed for the elderly and consists of 30 items including affective and behavioral symptoms of depression and each item is answered as "Yes" or "No". Among the 30 items, 10 were designed as negative and 20 as positive. The limit value is 14. Questions 3, 4, 5, 6, 8, 10, 11, 12, 13, 14, 16, 17, 18, 20, 22, 23, 24, 25, 26, and 28 are reverse scored. A minimum of 0 points and a maximum of 30 points can be obtained from the scale. Scoring of the scale: A score of 0-10 shows "no depression", a score of 11-13 shows "probable depression", and a score of 14 and above shows "definite depression". In the study of Ertan et al. (1997)[18], the Cronbach Alpha Coefficient of the scale was reported as 0.90.

Templer's Death Anxiety Scale

The validity and reliability study of the Turkish version of the "Death Anxiety Scale" (Templer, 1970) that was developed by Templer was conducted by Akça and Köse[19] The scale consists of 15 items as a binary Likert type in the form of true and false. Individuals who score 7 and above on the scale with a score range of 0-15 are considered to have high death anxiety.

Analysis of the Data

The data obtained in the study were evaluated in a computer environment with the SPSS 22.0 statistical program. Frequency and percentage analyzes were used to determine the descriptive characteristics of the elderly who participated in the study, and mean and standard deviation statistics were used in the analysis of the scale. Kurtosis (Kurtosis) and Skewness (Skewness) values were examined to determine whether the study variables showed a normal distribution. The lowest kurtosis values of the study variables were found to be -0.481, the highest at 0.117; skewness values were determined as the lowest at 0.165 and the highest at 0.430. It was also found that the variables showed normal distribution. In the analysis of the data, the relationships between the dimensions determining the scale levels of the elderly were examined through Pearson correlation and linear regression analyzes. The correlation coefficients (r) 0.00-0.25 were very weak; 0.26-0.49 weak; 0.50-0.69 medium; 0.70-0.89 high; 0.90-1.00 was evaluated as very high.[20] The t-test, One-Way Analysis of Variance (Anova), and post-hoc (Tukey, LSD) analyzes were used to examine the differences in scale levels according to the descriptive characteristics of the elderly.

Limitations of the Research

Several limitations of this study must be considered. The first was that the study was conducted only in one region and hospital, the second is that the chronic disease variables of the elderly were not examined and there was no information about its severity. The third limitation was that the sample consisted of elderly people who were hospitalized, and the fourth was that the number of scales for elderly individuals was high.

RESULTS AND DISCUSSION

The socio-demographic variables for individuals aged 65 and over participating in the study are given in Table 1**.** A total of 52.8% of the individuals participating in the study are women, 65.9% are between the ages of 65-74, and 21.6% are individuals living alone.

Table 1. Distribution of Elderly by Descriptive Characteristics (N = 176)

Groups	Frequency (N)	Percentage (%)
Gender		
Male	83	47.2
Woman	93	52.8
Age		
65-74	116	65.9
75-80	37	21.0
Over 80	23	13.1
Educational Status		
Secondary Education and Below	141	80.1
High School	23	13.1
University	12	6.8
Working Status		
Working	20	11.4
Not Working	156	88.6
People Living With		
Alone	38	21.6
Spouse And Child	138	78.4
Diagnosed Diseases*		
Heart Disease	88	50.0
Diabetes	78	44.3
Respiratory Diseases	35	19.9
Neurological Disease	43	24.4
Cancer	9	5.1
Rheumatic	52	29.5
TOTAL	176	100.0

*Multiple selected items

One out of every two individuals (50.0%) has a diagnosis of heart disease. 80.1% of individuals have secondary education or lower education level (Table 1).

Table 2. Variation of Scale Scores by Descriptive Characteristics (N = 176)

Demographic characteristics	n	Self-Neglect in the Elderly Total	Loneliness Total	Depression	Death Anxiety
Gender		Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD
Male	83	140.759±20.063	9.181±5.017	14.470±3.995	9.771±4.429
Woman	93	137.237±21.152	7.774±5.515	14.925±4.081	8.688±4.484
t=		1.130	1.762	-0.745	1.609
p=		0.260	0.080	0.457	0.110
Age		Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD
65-75	116	140.328±20.575	8.422±5.378	14.879±3.874	9.259±4.696
75-80	37	134.162±19.980	8.865±5.623	13.757±3.833	8.784±4.090
80 And Above	23	139.304±21.937	7.826±4.619	15.391±4.989	9.565±4.054
F=		1.258	0.270	1.470	0.244
p=		0.287	0.764	0.233	0.784
Educational Status		Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD
Elementary and Below	141	139.936±19.806	8.567±5.179	14.830±3.980	9.326±4.566
High school	23	137.435±25.398	8.304±5.456	14.261±4.474	9.000±4.285
University	12	129.500±19.865	7.167±6.860	14.167±4.064	8.083±3.919
F=		1.485	0.389	0.311	0.449
p=		0.229	0.678	0.733	0.639
Working Status		Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD
working	20	135.000±22.960	8.600±6.236	14.100±3.837	9.550±4.454
Not working	156	139.397±20.376	8.417±5.212	14.789±4.066	9.154±4.494
t=		-0.896	0.145	-0.717	0.372
p=		0.372	0.885	0.474	0.711
People Living With		Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD
Alone	38	142.658±20.288	11.000±5.614	15.816±4.026	9.579±4.740
Spouse And Child	138	137.862±20.717	7.732±5.029	14.406±3.999	9.094±4.416
t=		1.269	3.458	1.922	0.590
p=		0.206	**0.001**	0.056	0.556

F: Anova Test; t: Independent Groups T-Test; PostHoc: Tukey, LSD

No difference was detected in self-neglect, loneliness, depression, and death anxiety scores in the elderly according to gender, age, education level, and employment status (p>0.05). Loneliness total scores of those living alone (x=11.000) were found to be higher than those living with a spouse and children (x=7.732) (t=3.458; p=0.001<0.05; d=0.633; η 2 =0.064) (Table 2).

Table 3. Self-Neglect, Loneliness, Depression, Death Anxiety Total Scale Scores in the Elderly (N = 176)

	N	Cover	SD	Min.	Max.
SNSE (Self-Neglect Scale in the Elderly) Total Score	176	138.898	20.662	93.000	202.000
Social network	176	8.574	3.481	4.000	17.000
Physical health	176	37.244	7.061	21.000	59.000
Environmental Health	176	62.602	14.141	32.000	95.000
Psychological Health	176	30.477	5.492	18.000	50.000
YSFE Total Score	176	8.438	5.318	0.000	22.000
GDS Total Score (Geriatic Depression Scale)	176	14.710	4.036	5.000	27.000
Death Anxiety Total Score	176	9.199	4.479	0.000	19.000

The scale distribution averages are given in Table 3. The mean total score of SNSE was 138.898 ±20,662, the mean total score of LSFE was 8.438±5.318, the mean total score of GDS was 14.710±4.036, the total mean score of the Death Anxiety Scale was determined as 9.199±4.47.

Table 4. Correlation Analysis between SNSE and LSFE, GDS, Death Anxiety Scale Total Scores

Variables		SNSE
YSFE	r	0.173*
	p	0.022
GMO	r	0.360**
	p	0.000
Death Anxiety Scale	r	0.640**
	p	0.000

*<0.05; **<0.01; Pearson Correlation Analysis

When the correlation analysis between the total mean scores of self-neglect and loneliness, depression, death anxiety, and total scores in the elderly was examined, a positive very weak (r=0.173) (p=0.022<0.05) relationship was detected between loneliness and self-neglect in the elderly, a positive weak (r=0.36) (p=0.000<0.05) between depression and self-neglect in the elderly, positive moderate (p=0.000<0.05) correlation was found between the death anxiety and self-neglect in the elderly total score (r=0.64) scores. Correlation relationships between other variables were not statistically significant (p>0.05) (Table 4).

Table 5. The Effects of Loneliness, Depression, and Death Anxiety on Self-Neglect in the Elderly

Independent variable	Unstandardized Coefficients		Standardized Coefficients	T	p	95% Confidence Interval	
	B	SE	ß			Lower	Top
Still	97.607	4.657		20.958	0.000	88.415	106.800
Loneliness Total	0.311	0.226	0.080	1.376	0.171	-0.135	0.758
Depression	0.944	0.308	0.184	3.060	0.003	0.335	1.552
Death Anxiety	2.694	0.270	0.584	9.985	0.000	2.161	3.227

*Linear Regression Analysis - Dependent Variable=Self-Neglect in the Elderly Total. *R=0.674; R2 = 0.444; F=47.621; p=0.000; Durbin Watson Value = 0.586*

When the correlation analysis between the total mean scores of self-neglect and loneliness, depression, death anxiety, and total scores in the elderly was examined, a positive very weak (r=0.173) (p=0.022<0.05) relationship was detected between loneliness and self-neglect in the elderly, a positive weak (r=0.36) (p=0.000<0.05) between depression and self-neglect in the elderly, positive moderate (p=0.000<0.05) correlation The regression analysis made to determine the cause-effect relation between loneliness total, depression, death anxiety, and self-neglect total in the elderly was found to be significant (F=47,621; p=0.000<0.05). The total change in the total level of self-neglect in the elderly was explained by loneliness, depression, and death anxiety at a rate of 44.4% (R^2 = 0.444). Loneliness did not affect the total level of self-neglect in the total elderly (p=0.171>0.05). Depression increased the total level of self-neglect in the elderly (ß=0.184) and death anxiety increased the total level of self-neglect in the elderly (ß=0.584) (Table 5). Life expectancy has been prolonged with medical developments, increased life expectancy from birth, increased quality of life and increased awareness. The prolongation of life expectancy has brought with it the aging of the population, and the aging of the population has brought health problems associated with aging, especially public health issues such as self-neglect, loneliness, depression, and death anxiety.

In the present study, the mean score of the Self Neglect Scale of the Elderly (SNSE) was found to be 138.898±20.662(medium-level) (Table 3). The mean score of the social network sub-dimension, which is one of the sub-dimensions of the scale, was found to be 8.574, the mean score of the physical health sub-dimension was 37.244, the mean score of the environmental health sub-dimension was 62,602, and the mean score of the psychological health sub-dimension was

30.477. In a similar study conducted by Göksu (2022), the mean score of the social network sub-dimension, which is one of the sub-dimensions of SNSE, was found to be 8.87±2.99, the mean of the physical health sub-dimension was 31.68±9.34, the mean of the environmental health sub-dimension was 40.86±12.58, and the mean score of the psychological health sub-dimension was 21.40±6.95.[21] There were similar sub-dimension total scores in both studies. Self-neglect is a common and under recognized concept among community-dwelling elderly adults. In a review that examined a total of 19 studies, it was reported that the prevalence of self-neglect among older adults living in the community ranged from 18.4% to 29.1%. The risk factors identified by these studies are sociodemographic characteristics (i.e., male gender, advanced age, low economic status, ethnicity, low education level, marital status, and fewer children), health-related characteristics (i.e., cognitive impairment, low physical function, nutritional status, a higher number of medical comorbidities and pain), psychological characteristics (i.e., depression) and social context characteristics (i.e., living alone, lower social networks and social participation, lower neighborhood adjustment, etc.).[22] In a population-based cohort of the Chicago Health and Aging Project with 9318 participants aged over 65 years, 16.6% of participants were reported as self-neglecting during the 12-year follow-up. It was reported in the same study that the mean age of self-neglect was 74 years and 66% of individuals were female, and the prevalence differed between Caucasian and black older adults (5.3% vs. 21.7%, respectively). In a study of 11 years of data (Adult Protective Services Records) to identify self-neglect cases in a group of older people in Connecticut, the rate of self-neglect was reported as 5.4%. No studies were detected on the prevalence or incidence of self-neglect in European countries.[23] Although the findings of the current study are not very high, self-neglect, which is a common elderly self-care problem, might affect the health of the elderly seriously and increase the risk of mortality.[2] Elderly self-neglect is a growing serious and complex public health concern. The resources on the subject are very limited in the national literature.

In the present study, the total score of the loneliness level of the elderly individuals was found to be 8.43±5.31 (Table 3). Total loneliness is divided into four levels as 0-4 points range; not alone, does not feel lonely, range of 5-14 points; acceptable loneliness, range of 15-18 points; very lonely, 19-22 points range; very intense loneliness.[24] In a similar study that was conducted by Polat and Karasu (2020) on this subject, the total mean score of the LSFE (Loneliness Scale for the Elderly) was found to be 10.84±5.58.[9] Göksu (2022), on the other hand, reported the mean total loneliness score as 8.25±4.82 in his study.[21] When the literature was reviewed, as well as the studies in which the loneliness level was found to be low in the elderl,[25] there are also studies in which the level of loneliness was reported to be high.[26, 27] The LSFE total score was found to be lower in our study when compared to the literature. It can be considered that this result may be associated with the strong possibility of family ties in the region where the study was conducted.

It was found that the level of loneliness among the elderly individuals who agreed to participate in the study showed a statistically significant difference in those living alone when compared to those living with their spouses and children (11.000±5.614 in those living alone; 7.732±5.029 in those living with their spouse and/or children, $p<0.0019$) (Table 2). In a similar study conducted by Polat and Karasu (2020) that examined the relationship between the perceived loneliness level of elderly individuals and depression, loneliness was found to be significantly higher in single, illiterate, and single-living elderly individuals.[9] When the elderly lose their loved ones, mostly after being married for many years, a sense of loneliness develops because of the loss of their spouse.[28] When the literature was reviewed, findings similar to the results of the study were found. [27,28,29] Our study finding is

compatible with the literature data. The result of the study is not surprising because it was expected that the elderly do not feel lonely when they spend the last period of their lives with their spouses and/or children.

In the present study, the mean score of the Geriatric Depression Scale (GDS) was found to be 14.71±4.03 (definite depression) (Table 2). In studies conducted on the subject in the literature, different results such as mean GDS scores were reported as 15.16±6.96[30], 12.1±6.5[12], 7.08 ±4.12[9]; 5.01±3.52[21] were found. According to Ünal and Bilge's report, in a study that was conducted in Liuyang, China in 2011-2012 with a total of 819 elderly adults who lived in rural areas, the mean GDS score was found to be 8.50±6.26 for those living alone at home and 6.92±5.19 for those who did not live alone. Only one of these studies was conducted on elderly people who lived in nursing homes,[12] and in the others, elderly individuals lived in their own homes. The findings of the present study were close to the findings of Kılıç et al. and higher than the others.[30] Depression is associated with many factors (e.g., health deterioration and functional disability, loneliness and social isolation, loss of professional identity, limitation in physical movements, loss of family members or friends, and dependence of the elderly on other people).[12] We think that the high rate in our study finding may be associated with the fact that individuals are receiving treatment at the hospital, in other words, it may be associated with deterioration in health as well as timing. The fact that the study was conducted after the Covid-19 pandemic process that affected the world and immediately after the isolation and restrictions, illness and death anxiety that emerged because of the pandemic stimulated the hopelessness and pessimism of the elderly individuals, increasing the depressive symptoms.[31]

The Death Anxiety Scale (DAS) total score average was found to be 9.199±4.479 (Table 3) (7 or more indicates a high level of anxiety). In a study that was conducted by Bakan et al. (2019) with the participation of 250 people aged 65 and over who are registered with Family Health Centers in a city center in eastern Turkey, the mean score of the Death Anxiety Scale was reported as 7.73 ± 2.28 and high.[32] High death anxiety levels were reported in other studies in the literature.[33] In our study, death anxiety was found to be high in line with the literature data. Death anxiety is common in all societies. Death means something different to everyone. For some, death is an extinction, while it reminds of nothingness for others. Death anxiety is a feeling that starts from birth and continues throughout life and develops as a result of realizing the possibility of not existing, losing oneself and the world, and becoming nothing. Age, gender, personality traits, sociocultural factors, developmental process, religious beliefs, and fatal diseases are reported to be associated with death anxiety.[33,34] It is considered that our findings may have emerged due to factors such as the current diseases that required hospitalization, physical limitations, and current social isolation, which lead to thinking about death.

When the correlation analysis between the total mean scores of self-neglect and loneliness, depression, death anxiety, and total scores in the elderly were examined, a positive very weak correlation was found with loneliness $p<0.05$), positive and weak with depression ($p<0.05$), moderate and positive with death anxiety ($p<0.05$) (Table 4). The issue of self-neglect in the elderly is a novel area, and we could not find a similar study in the literature that examined the relationship of neglect with the three scales. Göksu's similar study conducted on the subject investigated the relationship between depression and self-neglect in the elderly.[21] According to the study findings, a moderately positive and significant relationship was detected between depression levels and self-neglect levels. According to this relationship, as the levels of depression increased in the elderly, the level of self-neglect also increased. It is considered that there might be a mutual relationship between depression and self-neglect in the elderly. The most important common risk factor for

self-neglect is depression.[35] Depression causes clinical deterioration as a psychological disorder with loss of interest, sadness, feelings of worthlessness and guilt, and loss of energy. This clinical deterioration may reveal self-neglect. Similarly, the elderly who neglect themselves do not show the necessary care and attention to themselves, and this can make the individual prone to depression. Self-neglect emerges from the interaction between medical, psychological, and social risk factors.[36] Similar results were detected when the literature was reviewed. Abrams et al. (2002) reported a positive relationship between self-neglect and depression in their study.[36] Studies supporting the relationship between depression and self-neglect are many.[12,22,37,38] As a result, depression may be preparing the ground for the emergence of neglect. However, it was determined in this study that the death anxiety of elderly individuals was the variable that most affected self-neglect. This can be interpreted as death anxiety will cause the individual to neglect himself. In the study of Dong et al. (2009), it was reported that the risk of death of the elderly who neglect themselves was high.[37] The study is the only one that examined the relationship between self-neglect and loneliness, depression, and death anxiety in the elderly. While this shows the originality of the study, it also shows its importance in terms of being a source for similar studies.

The regression analysis that was made to determine the cause-and-effect relationship between loneliness, depression, death anxiety, and self-neglect in the elderly was found to be significant ($F=47,621$; $p<0.05$). The total change in the total level of self-neglect in the elderly was explained by loneliness, depression, and death anxiety at a rate of 44.4% ($R^2=0.444$). Loneliness did not affect the level of self-neglect in the elderly ($p>0.05$). Depression (ß=0.184) and death anxiety increased the level of self-neglect in the elderly (ß=0.584) (Table 5). In his study conducted with 360 elderly individuals living in the community, Goksu (2022) found that there was a moderate and positive relationship between the depression levels of the elderly and their self-neglect levels.[21] No study was found similar to the present study findings in the literature. However, studies are reporting significant correlations between death anxiety and anxiety, depression, and neuroticism scales.[39] There are also studies reporting that death anxiety is higher in both men and women with anxiety disorders.[39,40] In a similar study conducted on the subject, Öztürk et al. found findings confirming the relationship between death anxiety and psychological disorders. In their study, Öztürk et al. reported that the mean death anxiety score was high in patients with high depression scores and that there was a relationship between depression and state anxiety and death anxiety.[10]

CONCLUSION AND RECOMMENDATION

Several limitations of this study must be considered. The first was that the study was conducted only in one region and hospital, the second is that the chronic disease variables of the elderly were not examined and there was no information about its severity. The third limitation was that the sample consisted of elderly people who were hospitalized, and the fourth was that the number of scales for elderly individuals was high.

It is predicted that the prevalence of self-neglect will increase in parallel with the increasing elderly population. In the present study, depression and death anxiety increased the level of self-neglect in the elderly, and loneliness was not effective in this regard. It can be argued that the death anxiety of elderly individuals is the variable that most affects self-neglect. In this context, it is important not to overlook the psychological dimension as well as the physical diseases in the self-neglect of the elderly. Early recognition of depression that might develop in old age and initiation of treatment, as well as investigating the factors that affect death anxiety in the elderly, and planning psycho-educational intervention studies for these

factors will affect the quality of life of the elderly positively.

The elderly population is increasing in Turkey, as is the case in the whole world. The aging of the population brings with it healthcare issues associated with old age, especially public healthcare issues such as self-neglect, loneliness, depression, and death anxiety. It is very difficult to detect a self-neglecting elderly person in the early period. In this regard, it is important to identify self-neglect and effective risk factors.

The present study is original in that it shows that a holistic approach is important in the provision of health services to the elderly. We believe that our study finding adds new data to the literature in terms of showing that psychological problems such as depression and death anxiety also cause self-neglect. Finally, the preparation of informative guides at the national level for the prevention of neglect at regular intervals for both elderly individuals who live in the community and hospitalized elderly individuals, and psychological screening of the elderly with primary healthcare services may increase the possibility of early diagnosis.

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