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### Evde Yaşayan Yaşlı Bireylerde Yalnızlık Algısının Ölüm Kaygısı Üzerindeki Etkisi

Loneliness Perception's Impact on Death Anxiety in Home-Dwelling Elderly Individuals

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## Evde Yaşayan Yaşlı Bireylerde Yalnızlık Algısının Ölüm Kaygısı Üzerindeki Etkisi

### Öz

**Amaç:** Yaşlılık, bireyin biyolojik, psikolojik ve sosyal açıdan yaşam döngüsünde ileri yaşlara ulaşmasıyla karakterize edilen bir süreçtir. Bu çalışmanın amacı, Güzelyurt ilçesinde evde yaşayan yaşlı bireylerin kişisel özellikleri ile yalnızlık algısının, ölüm kaygısına etkisini belirlemektir.

**Materyal ve Metot:** Çalışmaya Kuzey Kıbrıs Türk Cumhuriyeti Güzelyurt İlçesinde evde yaşayan 65 yaş ve üzeri kayıtlı 2.400 kişi araştırmanın evrenini oluşturdu. Çalışmada Yaşlılar İçin Yalnızlık Ölçeği ve Ölüm Kaygısı Ölçeği kullanılmıştır. Bu çalışmada power analiz yöntemi ile %95 geçerlilik ve güvenirlik kullanılarak hesaplanmış, örneklem hacmini 331 kişi oluşturdu.

**Bulgular:** Katılımcıların henel ölüm kaygısı orta seviyede  $9,26 \pm 3,83$  olduğu saptandı. Kadın ve erkek yaşlı bireylerin ölüm kaygı düzeyleri benzerdi. Yaşlı bireylerin yaş gruplarına göre ölüm kaygıları arasında herhangi bir fark saptanmamıştır ve yaş faktörünün ölüm kaygısıyla ilişkili olmadığı saptandı. Yaşlı bireylerin eğitim düzeyine göre ölüm kaygılarında farklılaşma vardır. Lise ve lisansüstü mezunu olan yaşlı bireylerin ölüm kaygıları daha düşüktü. Yaşlı bireylerin duygusal yalnızlıkları ile ölüm kaygıları arasında pozitif yönlü bir ilişki bulunmuş ve duygusal yalnızlığın ölüm kaygısını artırıcı şekilde yordadığı belirlenmiştir. Katılımcıların yalnızlık ölçeği sosyal yalnızlık alt boyutundan aldıkları puanların ölüm kaygısı ölçeği puanlarını istatistiksel olarak anlamlı düzeyde yordamadığı saptanmıştır.

**Sonuç:** Bu çalışma sonuçlarının yapılacak çalışmalara rehber olacağı düşünülmektedir.

**Anahtar Kelimeler:** Yaşlılık, Yalnızlık algısı, Ölüm kaygısı, Hemşirelik.

## Loneliness Perception's Impact on Death Anxiety in Home-Dwelling Elderly Individuals

### Abstract

**Objective:** Aging is a process characterized by the individual's advancement into later life stages biologically, psychologically, and socially. This study aims to determine the impact of personal characteristics and perceived loneliness on death anxiety among elderly individuals living at home in the Güzelyurt district.

**Material and Method:** The universe of the study consisted of 2,400 people aged 65 and over living at home in the Güzelyurt District of the Turkish Republic of Northern Cyprus. The Loneliness Scale for the Elderly and the Death Anxiety Scale were used in the study. In this study, 95% validity and reliability were calculated using the power analysis method, and the sample size was 331 people.

**Results:** The general level of death anxiety among participants was found to be moderate, at  $9.26 \pm 3.83$ . The levels of death anxiety were similar between elderly men and women. No significant differences were found in death anxiety levels among different age groups, indicating that age is not associated with death anxiety. However, there was a differentiation in death anxiety based on the education level of the elderly; those with high school and postgraduate degrees exhibited lower levels of death anxiety. A positive relationship was identified between emotional loneliness and death anxiety, with emotional loneliness being a significant predictor of increased death anxiety. Conversely, scores from the social loneliness subscale did not statistically significantly predict death anxiety scores.

**Conclusions:** The findings of this study are expected to guide future research in this area.

**Keywords:** Old age, Perception of loneliness, Death anxiety, Nursing.

## **Introduction**

Old age is a process characterized by an individual reaching an advanced age in the life cycle from a biological, psychological and social point of view. Although the term old age is usually used to refer to the period of time when a person is 65 years of age or older, this definition may vary depending on geographical, cultural and social factors. For example, according to the United Nations, old age is defined as 60 years and older, while in some countries it is stated that the age limit of 65 is accepted (Tun, Madanian and Mirza, 2021). Old age comes with natural changes in an individual's bodily functions and health status over time. These changes may include physical symptoms such as a decrease in muscle strength, loss of flexibility, a decrease in bone density, problems with the heart and circulatory system, and Dec Novation of vision and hearing. It is also reported that mentally, conditions such as slowing down in cognitive functions, forgetfulness and attention deficit can occur as a natural part of the aging process (Taffet, 2024). Formun ÜstüFormun Altı Today's medical and technological advances are extending human life expectancy and this is leading to an increase in the elderly population worldwide. Especially in developed countries and countries such as Turkey, the proportion of the elderly population is constantly increasing. In the case of Turkey, it was stated that the elderly population was determined to increase from 8.5% in 2017 to 10.2% in 2023 (Umutlu and Epik, 2019).

Changes in the health status of individuals in the aging process have important effects on quality of life and social role. In particular, restrictions on physical activities and health problems can affect the daily lives of elderly people, causing them to become more dependent on their families. This leads to a reshaping of roles within the family and an increase in the need for care (Schneider vd, 2021).

The feeling of loneliness in old age individuals may be caused by various factors. For example, the elderly may feel lonely and isolated due to reasons such as the loss of a spouse or friend, the narrowing of the social circle after retirement, distance from family members, or physical restrictions (Hawkey vd, 2022). Loneliness is associated with a decrease in social interactions and a weakening of support networks. It is reported that this condition may increase the risk of older people experiencing psychological problems such as depression, anxiety and low life satisfaction, as well as cause an increase in death anxiety (Von Soest vd, 2022). The concept of death can have profound effects on individuals in the old age process. Death anxiety and death depression are psychological problems that can be commonly observed among Decrepit individuals. Research shows that factors such as loneliness and lack of social support in particular have an impact on death anxiety. The end-of-life planning and death coping strategies of elderly individuals can significantly affect their quality of life (Ergin vd, 2020).

Death anxiety is another important psychological problem that is often encountered during old age. Elderly people may experience anxiety about the approach of death. The concept of death can lead to different emotional reactions and thoughts in individuals; for some it can be a process of acceptance, while for others it can create anxiety and fear. These concerns may increase, especially with health problems or life changes (Çiftci vd, 2024). Various support and intervention methods have been developed to manage and reduce loneliness and death anxiety in the elderly. Strengthening social support systems can increase the social interactions of older individuals and reduce the feeling of loneliness. In addition, psychosocial support services and therapies can help the elderly to meet their emotional needs and manage death anxiety (Aksakal and Kendirikiran, 2023).

With the increasing aging population, problems such as social isolation and loneliness are also becoming common. Especially in elderly individuals living alone at home, the feeling of loneliness is often observed and this condition can have negative effects on psychological health (Shirkavand vd, 2018). Loneliness is an important factor that reduces the quality of life of older people and increases the risk of depression. To understand in depth the effects of social isolation and lack of emotional support during the aging process on death anxiety in elderly individuals and to provide recommendations for the development of social support systems and elder care policies in this context (Zhang vd, 2018). The results of the research can guide policy makers and health professionals in order to provide better living conditions for older individuals.

## **Material and Methods**

### **Ethics Committee Approval**

Written permission was obtained from Cyprus Ilim University School of Nursing Ethics Committee with the letter dated 11.09.2023 and numbered 2023/09.003. In addition, verbal and written consent was obtained from individuals aged 65 years and over who agreed to participate in the study.

### **Study Design, Location, and Sample**

This is a descriptive study conducted with elderly individuals living at home in Güzeyurt District between 12.09.2023 - 31.01.2024. The population of the study consists of 2,400 elderly individuals. In this study, the power analysis method was calculated using 95% validity and reliability, and the sample volume consisted of 331 people.

**Variables:** In this study, the dependent variables were the mean score of death perception scale, Independent Variables; Age, gender, marital status, income level, health insurance, frequency of meeting with children, relatives and friends, social media usage status, loneliness score average.

### Data Collection Tools

In order to collect data, a “Personal information form” consisting of a total of 14 questions, including 8 questions questioning the sociodemographic characteristics of the elderly, 6 questions questioning the number and time of visitors to the region and home where they live, was created by the researchers by taking a literature review and expert opinion (Arpacı et al. 2022, Akgül and Yeşilyaprak, 2015). A “Mini Mental State Test” was applied by the researcher to the elderly individuals living at home who agreed to participate in the study, the “Loneliness Scale for the Elderly” and the “Death Anxiety Scale” were used.

### Sociodemographic Data Form

In the study, a personal information form consisting of a total of 14 questions was used to document the socio-demographic characteristics of each elderly individual.

### Loneliness Scale for the Elderly

The Loneliness Scale for the Elderly was developed by de Jong Gierveld and Kamphuis in 1985. The validity and reliability study of the scale in Turkish was conducted by Akgül and Yeşilyaprak 2015. The scale developed to measure the feeling of loneliness contains 11 items of the triple likert type. Emotional loneliness of the scale (2, 3, 5, 6, 9, 10) and social loneliness (1, 4, 7, 8, 11) there are two sub-dimensions, namely. The sum of these two dimensions constitutes the overall loneliness score. Items containing positive statements on the scale (1, 4, 7, 8, 11) 0= yes, 1=may, 2=no, substances containing negative statements (2, 3, 5, 6, 9, 10) 2= yes, 1=could be, 0=is scored as no. The lowest score to be taken from the scale is 0, the highest score is 22. As the score obtained from the scale increases, it is accepted that the individual's loneliness level is also high. In addition, the total score obtained from the scale; 0-4 points are grouped as not lonely / not feeling lonely, 5-14 points are acceptable loneliness, 15-18 points are very lonely, 19-22 points are very intense loneliness. The Cronbach alpha number of the scale is 0.85 (de Jong Gierveld and Kamphuis 1985; Akgül and Yeşilyaprak, 2015). In this study, the Cronbach Alpha coefficient of the scale was calculated as 0.812.

### The Scale of Death Anxiety

The scale was developed by Templer vd, 1970, and the validity and reliability study in Turkish was conducted by Figen and Akça in 2008. It is a 15-item scale designed to measure an individual's anxiety about death, with responses provided in a true/false format.

When scoring, items 4 and 8-14 should be assigned points based on correct answers, while the others are considered incorrect. Each correct answer receives 1 point, while incorrect answers score 0. The first 9 items of the scale are straight coded, and the remaining items include reverse coded expressions. The minimum and maximum scores for the scale range from 0 to 15. In this study, a death anxiety score of 7 points or above is interpreted as high, while a score below 7 is considered low.

The Cronbach's alpha coefficient of the scale was reported as 0.79 in previous studies (Akça and Köse, 2008; Akça et al., 2011), and the Richard Kuderson 20-fold coefficient was calculated at 0.97. In this study, the Cronbach's alpha coefficient for the scale was determined to be 0.834.

### Statistical Analysis

The data were collected from elderly individuals aged 65 years and over residing in Güzeyurt district of the Turkish Republic of Northern Cyprus in September October 2023-September 2023. Permissions were obtained from the necessary places (Güzelyurt District Governorship) before starting data collection. The data were analyzed using SPSS 26.0 package program. In the analysis of the data, descriptive statistics (arithmetic mean, range, percentage, standard deviation, standard error, tables and graphs) and the suitability of the data for normal distribution for comparisons between dependent and independent variables were examined with the Kolmogorov-Smirnov test, and it was determined that they did not show normal distribution. Accordingly, non-parametric tests were used in the study, Mann-Whitney U test and Kruskal-Wallis H test were applied for the comparison of dependent and independent variables. Spearman test was applied for correlations between continuous data. Multivariate regression analysis was applied for predictability.

### Results

It was found that 50.45% of the elderly individuals participating in the research were female, 49.55% were male;

according to the age distribution, 41 Dec 69% were between 65-69 years old, nearly all of them were married, 30.21% were primary school graduates, 32.02% were middle school graduates and 28.40% were high school graduates. In terms of family size, while 61.03% had one child, 21.45% had 3-5 children and 13.29% had more than 5 children, 29.31% were housewives and 56.80% retired according to their professional groups, the proportion of participants with health insurance was 90.03%. According to their living situation, 20.85% of them live alone and 74.02% of them live with their family. It was found that 57.40% live in the city and 42.60% live in the rural area according to where they live.

**Table 1** Distribution of Socio-Demographic Characteristics of Participants

Variables	Number (n)	Percentage (%)
<b>Sex</b>		
Female	167	50.45
Male	164	49.55
<b>Age</b>		
65-69	138	41.69
70-74	97	29.31
75-79	48	14.50
80-84	23	6.95
85+	25	7.55
<b>Marital status</b>		
Married	255	77.04
Single	76	22.96
<b>Education Status</b>		
Primary school	100	30.21
Middle school	106	32.02
High school	94	28.40
Licence	31	9.37
<b>Number of children</b>		
No child	14	4.23
1-3	202	61.03
3-5	71	21.45
5+	44	13.29
<b>Job</b>		
Employee	30	9.06
Officer	7	2.11
Small business	9	2.72
Housewife	97	29.31
Retired	188	56.80
<b>Income status</b>		
Income is less than expenses	88	26.59
Income equals expenses	180	54.38
Income is more than expense	63	19.03
<b>Health insurance</b>		
Yes	298	90.03
Not	33	9.97
<b>People living together</b>		
Alone	69	20.85
With family	245	74.02
With the caregiver	17	5.14
<b>Living place</b>		
City	190	57.40
Countryside	141	42.60

It was found that the participants participating in the study received an average of  $5.17 \pm 3.32$  points from the emotional loneliness sub-dimension of the loneliness scale for the elderly,  $2.78 \pm 2.41$  points from the social loneliness sub-dimension, and  $7.95 \pm 5.03$  points from the overall scale. In addition, it was determined that the participants in the study received an average score of  $9.26 \pm 3.83$  on the death anxiety scale.

**Table 2** Participants' Loneliness Scale for the Elderly and Death Anxiety Scale Scores

	n	$\bar{x}$	s	Min	Max
Emotional Loneliness	331	5.17	3.32	0	12
Social loneliness	331	2.78	2.41	0	10
<b>Loneliness Scale for the Elderly</b>	331	7.95	5.03	0	22
<b>The Scale of Death Anxiety</b>	331	9.26	3.83	1	15

\*Min; Minimum

\*\*Max: Maximum

\*\*\*S: Standard Deviation

There was no statistically significant difference between the death anxiety scale scores of the male and female participants participating in the study ( $p > 0.05$ ). There was no statistically significant difference between the death anxiety scale scores of the participants according to marital status ( $p > 0.05$ ). The death anxiety scale scores of the participants who have health insurance are statistically significantly higher than those who do not have health insurance ( $p < 0.05$ ). No statistically significant difference was found between place of residence (urban or rural) and death anxiety scale scores ( $p > 0.05$ ). Statistically significant differences were found between the death anxiety scale scores of the participants according to social media usage status ( $p < 0.05$ ). The death anxiety scale scores of the participants who used social media were found to be higher than those who did not use social media.

**Table 3.** Comparison of The Scale of Death Anxiety Scores of Participants according to gender, marital status, health insurance, place of residence, and social media usage status

	n	$\bar{x}$	s	Median	sm	z	p
<b>Sex</b>							
Female	167	9.53	3.65	10	171.86	-1.128	0.259
Male	164	8.99	3.98	9	160.03		
<b>Marital status</b>							
Married	255	9.18	3.93	10	164.89	-0.389	0.697
Single	76	9.53	3.46	11	169.74		
<b>Health insurance</b>							
Yes	298	9.51	3.76	10	172.14	-3.523	0.000*
Not	33	7.03	3.71	7	110.52		
<b>Living place</b>							
City	190	9.29	3.88	10	167.19	-0.263	0.793
Countryside	141	9.23	3.77	10	164.40		
<b>Using social media</b>							
User	208	9.65	3.76	10	176.00	-2.480	0.013*
Not using	123	8.60	3.86	8	149.10		

\* $p < 0.05$

\*\*SO: Standard mean

Participants participating in the study It was determined that the difference between the general scores of the loneliness scale for the elderly according to the gender of the participants was statistically significant ( $p < 0.05$ ). The general scores of the loneliness scale for the elderly were higher for male participants than for female participants. It was determined that the difference between the general scores of the loneliness scale for the elderly according to the marital status of the participants was statistically significant ( $p < 0.05$ ). The general scores of the loneliness scale for the elderly of single participants were higher than for married participants. It was determined that there were no statistically significant differences between the general scores of the loneliness scale for the elderly of

participants with and without health insurance ( $p>0.05$ ).

It was determined that there were no statistically significant differences between the general scores of the loneliness scale for the elderly of participants living in urban areas and those living in rural areas ( $p>0.05$ ). It was determined that the difference between the general scores of the loneliness scale for the elderly according to the social media usage status of the participants was statistically significant ( $p<0.05$ ). The general scores of the loneliness scale for the elderly of participants who did not use social media were higher than those of participants who used social media.

**Table 4** Comparison of the General and Sub-Dimension Scores of the Loneliness Scale for the Elderly According to the Participants' Gender, Marital Status, Health Insurance, Place of Residence, and Social Media Usage Status

Variables	n	Loneliness Scale for Elderly People						Emotional Loneliness Sub-Dimension						Social Loneliness Sub-Dimension					
		General																	
		$\bar{x}$	sd	Med	m.r	z	P	$\bar{x}$	sd	Med.	m.r.	z	p	$\bar{x}$	sd	Med.	m.r.	z	P
Sex																			
Female	167	7.1	4.8	7.0	149.7	10981.0	,002	4.7	3.3	5.0	152.5	11451.0	,010	2.4	2.3	2.0	150.5	11110.0	,003
Male	164	8.9	5.1	8.0	182.5			5.7	3.3	5.0	179.6			3.2	2.5	3.0	181.7		
Marital status																			
Married	255	7.3	4.6	7.0	154.8	6834.0	,000	4.8	3.1	4.0	155.6	7057.0	,000	2.5	2.2	2.0	156.8	7361.0	,001
Single	76	10.2	5.8	11.5	203.5			6.4	3.7	7.0	200.6			3.7	2.9	4.0	196.6		
Health insurance																			
Yes	298	7.9	5.0	8.0	165.8	4861.5	,915	5.1	3.3	5.0	163.8	4274.0	,216	2.8	2.4	3.0	168.3	4231.5	,182
Not	33	8.1	5.0	8.0	167.6			5.8	3.3	6.0	185.4			2.2	2.2	2.0	145.2		
Living place																			
City	190	7.5	4.6	8.0	159.5	12169.0	,153	4.8	3.1	4.0	154.8	11283.5	,014	2.7	2.2	3.0	166.0	13386.0	,992
Countryside	141	8.6	5.6	8.0	174.7			5.7	3.6	6.0	180.9			2.9	2.7	2.0	165.9		
Using social media																			
User	208	6.9	4.4	6.0	146.0	8639.5	,000	4.5	3.0	4.0	147.1	8872.0	,000	2.4	2.1	2.0	151.3	9746.5	,000
Not Using	123	9.8	5.5	9.0	199.7			6.3	3.5	6.0	197.8			3.5	2.7	3.0	190.7		

\* $P<0.05$ , Test Used: Mann Whitney Test, Med.: Media, M.R.: Mean Rank

As seen in Table 5, it is revealed that the loneliness levels of elderly individuals vary depending on various factors such as age, number of children, occupation, income status, lifestyle and social relationships. When age groups are examined, it is determined that the loneliness levels of individuals aged 65-69 are lower compared to those aged 75 and above, while individuals aged 85 and above have the highest loneliness score. However, the differences between age groups are not statistically significant ( $p>0.05$ ). When evaluated in terms of the number of children, the loneliness scores of individuals with 1-3 children are found to be lower compared to those with 5 and above children. According to the occupation variable, it was determined that civil servants have higher loneliness levels compared to tradesmen and retirees, while workers have lower emotional loneliness levels compared to retirees. In terms of economic status, it was observed that the loneliness levels of individuals whose income is less than their expenses are lower compared to individuals whose income is more than their expenses. According to the living situation variable, it was determined that the loneliness scores of individuals living with their families are lower compared to individuals living alone or with a caregiver. In terms of social relationships, individuals who see their children, relatives or friends less often have higher levels of loneliness. In particular, individuals who do not see each other at all have higher levels of loneliness than those who see each other regularly. These findings show that loneliness in older individuals is affected by individual and environmental factors and that social support systems play an important role in this context.

**Table 5** Comparison of the General and Sub-Dimension Scores of the Loneliness Scale for the Elderly According to the Participants' Age, Education Status, Number of Children, Profession, Income, People They Live With, and Frequency of Meeting with Their Children, Relatives and Friends

Variables	n	Loneliness Scale for Elderly People Genera							Emotional Loneliness Sub-Dimension							Social Loneliness Sub-Dimension								
		s	Med	M.R.	X <sup>2</sup>	p	Df.	ᄡ	s	Med.	M.R.	X <sup>2</sup>	p	Df.	ᄡ	s	Med.	M.R.	X <sup>2</sup>	p	Df.	ᄡ		
Age																								
1-65-69	138	6.6	4.1	6.0	141.2	41.52	.000	1-3	4.2	2.8	4.0	136.7	42.63	.000	1-3	2.4	2.1	2.0	155.9	21.03	.000	1-5		
2-70-74	97	7.4	4.8	7.0	156.0			1-4	4.9	3.3	5.0	160.2			2-4	2.4	2.3	2.0	152.5					
3-75-79	48	9.3	5.0	9.0	193.0			1-5	6.3	3.4	7.0	199.9			1-4	2.9	2.3	3.0	175.9					
4-80-84	23	10.1	6.9	9.0	196.7			2-5	6.4	3.8	7.0	202.7			1-5	3.7	3.6	2.0	178.8					
5-85+	25	13.2	4.5	13.0	261.3			3-5	8.3	2.9	8.0	250.7			2-5	5.0	2.6	5.0	242.5					
Number of children																								
1-no children	14	7.5	6.6	5.0	144.0	10,25	.017	2-4	4.4	4.4	4.0	140.0	13.85	.003	2-4	3.1	3.0	3.0	168.2	2.50	.474	---		
2-1-3	202	7.3	4.4	7.0	156.1				4.7	3.0	4.0	154.7				2.6	2.1	2.0	161.3					
3-3-5	71	8.4	5.4	8.0	175.4				5.6	3.6	5.0	177.0				2.8	2.5	2.0	166.4					
4-5+	44	10.3	5.9	9.5	203.0				6.7	3.3	6.0	208.9				3.6	3.2	3.0	186.0					
Job																								
1-Employee	30	6.6	3.4	7.5	145.7	15.26	.004	2-3	4.0	2.5	4.0	133.2	16.84	.002	1-5	2.6	1.7	2.5	165.2	8.06	.089	---		
2-Officer	7	9.4	2.5	8.0	207.4				6.6	1.6	6.0	216.3				2.9	1.7	3.0	178.8					
3-Small business	9	4.1	3.4	2.0	88.3				2.8	2.5	2.0	92.2				1.3	1.7	0.0	107.0					
4-Housewife	97	7.1	4.5	7.0	149.8				4.7	3.2	5.0	152.4				2.4	2.1	2.0	151.4					
5-Retired	188	8.8	5.4	8.0	179.7				5.7	3.5	5.0	179.8				3.1	2.6	3.0	175.9					
Income status																								
1-Income is less than expenses	88	7.1	4.8	7.0	151.4	7.17	.028	1-3	4.5	3.1	4.0	147.8	9.55	.008	1-3	2.6	2.4	2.0	159.5	2.39	.302	---		
2-Income equals expenses	180	7.8	4.8	8.0	163.7				5.1	3.2	5.0	164.3				2.7	2.3	2.0	163.5					
3-Income is more than expense	63	9.5	5.7	10.0	192.2				6.3	3.8	7.0	196.1				3.2	2.7	3.0	182.1					
People living together																								
1-Alone	69	10.0	6.2	11.0	199.2	37.17	.000	1-2	6.2	3.9	7.0	195.3	36.36	.000	1-2	3.8	3.0	4.0	195.9	21.57	.000	1-2		
2-With family	245	6.9	4.1	7.0	149.2				4.6	2.9	4.0	150.0				1-3	2.4	2.0	2.0				152.6	
3-With the caregiver	17	14.4	4.7	13.0	272.6				2-3	9.4	2.5	10.0				276.7	2-3	5.0	3.0				5.0	236.9
Frequency of meeting with children																								
1-I never see each other	20	9.2	6.8	7.5	174.2	23.28	.000	2-4	5.5	4.3	4.5	169.9	21.75	.000	2-4	3.7	3.4	3.0	185.1	16.77	.000	2-3		
2-Every day	84	6.5	4.8	6.0	138.8				4.5	3.2	4.5	147.9				2-4	2.0	2.2	2.0				133.3	
3-Every 2-3 days	169	7.6	4.5	7.0	161.3				3-4	4.8	3.1	4.0				156.7	3-4	2.8	2.1				3.0	170.0
4-Seven days and longer	58	10.7	5.1	9.0	216.0				7.0	3.0	6.0	217.7				3-4	3.7	2.8	3.0				195.0	
Frequency of meeting with relatives																								
1-I never see each other	7	12.9	4.0	13.0	261.8	20.64	.000	1-2	7.0	2.3	7.0	224.1	14.88	.002	3-4	5.9	2.8	5.0	264.8	21.26	.000	1-2		
2-Every day	29	6.5	4.6	6.0	139.9				4.7	3.3	5.0	154.5				1.8	2.2	1.0	121.9					
3-Every 2-3 days	127	6.8	4.7	7.0	144.6				4.4	3.2	4.0	143.7				2.4	2.3	2.0	151.2					
4-Seven days and longer	168	8.9	5.1	8.0	182.6				5.8	3.3	6.0	182.3				3.1	2.4	3.0	180.6					
Frequency of meeting with friends																								
1-I never see each other	11	12.1	3.7	12.0	250.0	39.98	.000	1-2	6.9	1.9	6.0	223.8	41.20	.000	1-3	5.2	3.1	5.0	245.0	20.46	.000	1-2		
2-Every day	182	7.2	4.5	7.5	155.1				1-3	4.8	3.1	5.0				157.5	2-4	2.4	2.1				2.0	153.3
3-Every 2-3 days	79	6.5	4.5	6.0	136.3				2-4	4.0	3.1	4.0				131.0	3-4	2.5	2.1				2.0	157.1
4-Seven days and longer	59	11.4	5.7	12.0	223.5				3-4	7.5	3.4	8.0				228.1	3-4	3.9	3.0				4.0	202.2

\*P&lt;0.05, Test Used: Mann Whitney Test, Med.: Media, M.R.: Mean Rank \*\* Df: Difference

## **Discussion and Conclusion**

This study examines the effects of personal characteristics and loneliness perception on death anxiety of elderly individuals living at home in Güzeyurt district. The findings are discussed by reviewing the literature.

In this study, 50.45% of participants were women, 41.69% were aged 65-69, most were married, 30.21% were primary school graduates, 61.03% had only one child, 29.31% were housewives, and 56.80% were retired. Additionally, 90.03% had health insurance, 20.85% lived alone, 74.02% lived with family, and 57.40% resided in urban areas. Similarly, in Zhang et al. (2019), a study examining life meaning and death anxiety in the elderly found that half of the participants were women, most were aged 65+, a significant portion were married, literate, retired, and close to half lived alone. Ryu & Choi (2020) reported similar demographics, with 52.2% of elderly participants being women, 55.1% aged 65-69, 91.2% married, 41.4% middle school graduates, and 96.2% retired and living alone. These findings align with the broader literature, which suggests that women comprise a higher proportion of older populations due to their longer life expectancy.

This study found that the elderly participants' average score on the death anxiety scale was  $9.26 \pm 3.83$ , indicating a moderate level of death anxiety. Similarly, Ergin et al. (2023) reported a lower average score of  $6.10 \pm 3.50$  for elderly people living in nursing homes, suggesting a lesser degree of death anxiety. Çiftci et al. (2024) found an average score of  $8.16 \pm 1.11$  in a study on aging fear, loneliness, and death anxiety, which also indicated moderate levels. Ron (2020) and Shirkavand et al. (2021) reported similar moderate anxiety levels, linking death anxiety with loneliness, particularly in elderly cancer patients. Additionally, Ryu & Choi (2020) observed lower death anxiety scores ( $3.02 \pm 0.42$ ) in elderly individuals living alone, suggesting that some may experience relatively lower death anxiety. These findings, showing moderate death anxiety overall, highlight the importance of assessing and addressing the psychosocial needs of the elderly.

This study revealed that elderly participants with health insurance had significantly higher death anxiety scale scores than those without insurance ( $p < 0.05$ ). Additionally, significant differences were found in death anxiety based on social media use, with social media users scoring higher in death anxiety than non-users ( $p < 0.05$ ). Similarly, Zahedi Bidgol et al. (2020) observed higher death anxiety scores in insured elderly individuals compared to those without insurance. Çam et al. (2021) also reported that elderly people with health insurance had higher loneliness and death anxiety scores than those uninsured. These findings align with other studies, supporting a parallel relationship between health insurance, social media use, and elevated death anxiety levels in elderly individuals.

This study found no statistically significant difference between age and death anxiety scale scores among participants ( $p > 0.05$ ). Similarly, Öztürk, Karakuş, and Tamam (2021) also observed no significant relationship between age and death anxiety in their research on elderly individuals. Contrary to expectations, death anxiety does not appear to vary with age in older adults. This stability in anxiety levels may be attributed to factors such as reaching a level of maturity where death is more accepted, experiencing the loss of loved ones over time, or viewing death as a potential reunion with deceased loved ones.

The study found a statistically significant difference in death anxiety scale scores based on participants' educational levels ( $p < 0.05$ ). Participants with only elementary education had lower death anxiety scores compared to those with secondary education. Similarly, Kasar et al. (2016) identified a significant relationship between educational status and death anxiety among the elderly, indicating that death anxiety decreases as education level decreases. This trend suggests that greater knowledge about death may help alleviate death anxiety, particularly among those with higher education. Supporting this, the philosopher and physician Ibn Sina noted that fear of death can stem from a lack of understanding or misinformation about death itself.

The study highlights that being able to age alongside loved ones is fundamental to well-being. A statistically significant difference was found in death anxiety levels based on the frequency of participants' interactions with their children ( $p < 0.05$ ); specifically, those who met with their children daily or every 2-3 days had lower death anxiety scores compared to those who met less frequently (every seven days or longer). A similar pattern was observed in interactions with other relatives, where daily or every 2-3-day contact correlated with lower death anxiety scores compared to those who met with relatives less often. Yilmaz & Mermutlu (2023) also observed that elderly individuals living with family reported higher death anxiety levels than those living alone, likely due to a sense of responsibility towards family members. This underlines the importance of frequent social connections for alleviating death anxiety among the elderly.

The study found no statistically significant difference in death anxiety scores among participants based on their income level ( $p>0.05$ ). This result aligns with findings from Tel, Koç, and Aydın (2020), who reported a similar lack of significant correlation between income and death anxiety in elderly individuals living at home. Both studies suggest that income may not play a substantial role in influencing death anxiety, highlighting that other factors, such as social support and health status, may be more impactful on death-related concerns among the elderly. The study found statistically significant differences in loneliness scale scores among elderly participants based on several factors, including age groups, number of children, occupational status, income, cohabitation arrangements, and the frequency of interactions with their children, relatives, and friends ( $p<0.05$ ). This aligns with findings from Gündoğan and Gümüş (2023), who also identified significant relationships between loneliness perception and variables such as age, occupation, income status, and frequency of family contact. These consistent results across studies highlight the complex interplay between social factors and loneliness in the elderly population, suggesting that increased social interactions and support may mitigate feelings of loneliness.

The study reveals a positive relationship between emotional loneliness and death anxiety among elderly participants, indicating that increased emotional isolation correlates with heightened anxiety about death. In contrast, social loneliness did not significantly predict death anxiety scores ( $p>0.05$ ). This suggests that emotional connections, rather than social interactions alone, play a crucial role in influencing death anxiety. Previous research, such as Ebrahimi, Hosseini, and Rashedi (2018), supports this finding, emphasizing that emotional loneliness is strongly related to death anxiety in older individuals. Furthermore, perceived social support networks are linked to reduced loneliness, highlighting the importance of these networks in helping the elderly manage their health and cope with feelings of isolation.

In conclusion, the findings of the study show that loneliness and death anxiety in elderly individuals vary depending on various individual and environmental factors. Men, single individuals and those who do not use social media have higher levels of loneliness ( $p<0.05$ ). Loneliness is affected by factors such as age, number of children, occupation, income status and social relationships. In addition, individuals with health insurance were found to have higher levels of death anxiety ( $p<0.05$ ). These results suggest that social support systems should be strengthened to reduce loneliness and support psychosocial well-being in elderly individuals.

Based on the research findings, the following recommendations can be made by focusing on death anxiety and related socio-demographic factors in elderly individuals:

Strengthening emotional support systems, increasing social connections, and reducing the feeling of emotional loneliness in elderly individuals can have a positive effect on the psychological and emotional health of elderly individuals.

Social relationships of elderly individuals with their families and children should be increased. Initiatives such as community activities, social clubs, or solidarity projects among elderly individuals should be encouraged to increase the social interactions of elderly individuals.

It is important to support elderly individuals in learning strategies to cope with emotional loneliness. Services such as group therapies, support groups, or individual counselling can be effective at this point.

It is important to provide elderly individuals with training in the use of digital technology and to provide support to use these platforms more effectively.

Limitations of the study; One of the strengths of this study is that it is the first study to evaluate some characteristics of elderly individuals living at home in Güzelyurt district and settlements affiliated to Güzelyurt district, and their levels of loneliness perception and death anxiety. The tools used in this study were used in Turkish with good consistency. The limitation of this study is that it was limited to a single region.

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