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Examination of Elder Abuse and Death Anxiety in Older Adults With a Chronic Disease

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ABSTRACT

Aim: This study was conducted to examine elder abuse and death anxiety in older adults who had chronic diseases.

Design: The present study is a cross-sectional and correlational study.

Methods: This study was conducted with 200 patients who met the research criteria and agreed to participate in the study and who were admitted to the internal medicine outpatient clinics of a university hospital in Elazig, eastern Turkey. Data were collected by using 'Descriptive Information Form' Hwalek-Sengstock Elderly Abuse Screening Test (H-S/EAST) 'Death Anxiety Scale (DAS)'.

Results: The mean DAS score of 8.66 ± 2.87 was evaluated as high and the mean H-S/EAST score of 6.41 ± 3.78 was evaluated as moderate risk of abuse. It was found that the independent variable H-S/EAST total score affected DAS total score positively ($\beta = 0.633$) and explained 38% ($p < 0.001$). Among the variables included in the model, gender, age and employment status were found to be positive ($\beta = 0.243$, $\beta = 0.222$, $\beta = 0.222$) statistically significant predictors of H-S/EAST total score. In addition, it was found that gender was a positive ($\beta = 0.318$) and statistically significant predictor of DAS total score ($p < 0.05$).

Conclusions: Older individuals with chronic illness have a moderate risk of abuse and a high level of death anxiety. As the risk of elder abuse increases, death anxiety also increases. In addition, gender is an important predictor of elder abuse and death anxiety. In line with these results, it is recommended to identify groups with high potential for abuse, to organise awareness-raising training programs to prevent abuse and to conduct evaluations for abuse and death anxiety at regular intervals. Also, the results of this research will contribute to nursing literature and will be useful for future interventional research.

Public Contribution: There is no public contribution.

1 | Introduction

Old age refers to ages approaching and exceeding the life expectancy of human beings. Old age is defined as a period of life in which individuals experience losses in biological, psychological and sociological areas and the need for care/support increases (Kitayama, Berg, and Chopik 2020).

Demographic trends in the world and in our country show that the number of older adults has increased dramatically and will continue to increase. In 2050, it is estimated that the world's population aged 60 and over will double to 2.1 billion, while the number of individuals aged 80 and over will triple between 2020 and 2050, reaching 426 million (Maresova et al. 2019; World Health Organization 2022b). Along with the increase in life

expectancy, many problems related to old age such as poverty, addiction, loss of work force and increase in chronic diseases can be seen. Current demographic changes necessitate shifting the global focus to meet preventive health services and medical needs of older population (Maresova et al. 2019; World Health Organization 2022b).

Older adults are the group with the highest prevalence of chronic diseases. It is known that 41 million individuals die every year due to chronic diseases, this number constitutes 74% of deaths worldwide and the disease/death rates occur mostly in the older group. There has also been an increase in multimorbidity with the increase in life expectancy. Rizzuto et al. (2017) showed that multimorbidity affects 70.4% of the population, accounts for 69.3% of total deaths, causes 7.5 years of life loss and causes disability in 81% of the remaining years of life (average 5.2 years). Increasing chronic diseases cause limitations in daily living activities of older adults and increase their rates of dependency. Dependency creates the need for long-term care (Maresova et al. 2019; World Health Organization 2022c).

According to the WHO, abuse of older people is a single or repeated act or lack of appropriate action that occurs in any relationship with an expectation of trust and causes harm or distress to an older person. Abuse of older people is a human rights violation and includes physical, sexual, psychological and economic abuse and neglect (World Health Organization 2022a). The care needs of the elderly with chronic diseases are met by their relatives, caregivers or institutions, and it is estimated that elderly care will not be adequately supported due to socio-economic and cultural changes that develop with the increase in the elderly population and this will increase the incidents of elderly abuse (Aslan and Erci 2020; World Health Organization 2022a). Piri et al. (2018) reported that the rate of elderly abuse within the family was 90.4%. It is stated that factors such as advancing age, poor health status, poor economic status and gender increase the possibility of elderly abuse (Seth et al. 2019).

Death anxiety can be defined as the psychological state that people experience consciously or unconsciously when they feel under the threat of death (Kesebir 2014). The perception of aging is a cause of death anxiety, which is one of the most common anxiety disorders of old age (Alvi, Tarar, and Sajid 2022; Mohammadpour et al. 2018). Alvi, Tarar, and Sajid (2022) found that fear of aging, fear of loneliness, fear of leaving loved ones behind, fear of decay and decomposition of the body after death, lack of religiosity, low self-esteem and physical weakness are factors leading to death anxiety. Older people may have some degree of death anxiety, but when it is excessive, it can trigger negative emotional reactions (Schroyen et al. 2017). Therefore, it is emphasised that it is necessary to identify the factors that can alleviate death anxiety and to empower against these factors (Roshani 2012).

In many socio-cultural structures, old age is associated with chronic diseases and death as it is the last period of life and abuse is considered as an important risk factor for this relationship (Baker et al. 2009; Nemati-Vakilabad et al. 2023). It is stated that high abuse in the elderly threatens physical, mental and spiritual health and increases the risk of dependency and death (Baker et al. 2009; Santos et al. 2021). In cases of chronic diseases that increase the need for care and dependency, the rates of abuse increase even more (Magruder, Fields, and Xu 2019; Nemati-Vakilabad et al. 2023).

2 | Background

The world population is aging rapidly and the number of people aged 65 and over is expected to reach approximately 2 billion in 2050. Therefore, the abuse of older persons is also expected to increase. With the increase in elder abuse, it is becoming increasingly important to emphasise that respect and care for the elderly is a human right that should never be violated (World Health Organization 2024).

It is emphasised that particularly having a chronic illness increases the possibility and rate of abuse (Wong, Cafferky, and Alejandro 2022; Nemati-Vakilabad et al. 2023). Chronic illness can reduce the functioning of older adults, making them vulnerable to the risk of maltreatment of older people. An older person with chronic illness becomes more dependent on caregivers for support and the burden on the caregiver increases (Jika, Khan, and Lawal 2021). As chronic illness progresses, older people become more dependent on caregivers and less able to protect themselves from abuse and neglect (Wong, Cafferky, and Alejandro 2022).

Anxiety is one of the most common psychological problems in older people. The fact that older individuals face various obstacles and experience inadequacies in this period of life can cause anxiety. And the most common form of anxiety is death anxiety (Mohammadpour et al. 2018; Mokhtari, Moayedi, and Golitaleb 2020). High death anxiety among older people is associated with chronic diseases, physical problems, disability, retirement, loneliness and dependence on others (Birgit et al. 2018; Menzies and Menzies 2020). It has been emphasised that anxiety may cause an increase in morbidity and mortality in older individuals, especially in relation to increased cardiovascular burden and progression of cognitive decline (Andreescu and Lee 2020).

No study was found in literature in which death anxiety and elder abuse were evaluated together in older adults with chronic diseases. This study was conducted to determine abuse and death anxiety in older adults with chronic diseases. It is thought that this study will contribute to a better understanding of death anxiety and lesser-known elder abuse in older adults with chronic diseases and reveal the relationship between these concepts. There is a need for policies to be developed with the cooperation of social, health and justice sectors for the prevention of elder abuse. Determining the factors associated with abuse is of great importance in the formulation of evidence-based public policies. We hope that this study will provide practical information to policy makers and health professionals on how to effectively tackle elder abuse in vulnerable groups and provide guidance for future research on intervention.

3 | Methods

3.1 | Research Questions

1. What is the level of risk of elder abuse and death anxiety in elderly individuals?
2. Do the descriptive characteristics of older individuals affect elder abuse and death anxiety?
3. Is there a relationship between abuse and death anxiety in older individuals?

3.2 | Study Design

The present study is a cross-sectional and correlational study.

3.3 | Study Setting and Sample

Convenience sampling method was used in the study. Population of the study consisted of elderly individuals aged 65 years and over (330 individuals) who applied to the internal clinics of Fırat University Hospital in Elazığ in the east of Turkey between August and December 2022. Fırat University Hospital has the capacity to serve many older people.

The sample consisted of older individuals who met the inclusion criteria (being 65 years of age or older, having a chronic disease for at least 6 months, being able to communicate adequately. Exclusion criteria: having a psychiatric problem) and who agreed to participate in the study. A priori power analysis in G-Power 3.1.9.4 programme was used to determine the sample size in the study. For the priori power analysis, the effect size was found to be 0.513 (for the *t*-test comparing two groups), taking into account the mean death anxiety scores of the gender variable in the study of Cengiz, Yıldırım, and Gürdap (2021) among the studies on the subject. In line with this result, when the effect size was 0.513, the confidence interval was 95%, the significance level was 0.05 (Faul et al. 2007) and the power was 95% (Çapık 2014), it was determined that the minimum number of older individuals to be included in the study was 166. During the data collection process, 330 individuals aged 65 years and over were reached. Since 72 older individuals did not meet the research criteria and 58 individuals did not want to participate in the research, the research was finalised with 200 older individuals (75% participation). These values show that the sample size is at the desired level.

3.4 | Instruments

Data were collected by using 'Descriptive Information Form', 'Hwalek-Sengstock Elder Abuse Screening Test (H-S/EAST)' and 'Death Anxiety Scale (DAS)'.

3.4.1 | Descriptive Information Form

This form, which was prepared by the researchers, included 18 questions about participants' age, gender, educational status, employment status, income status, status of having a child, status of having social security, diagnosis of existing chronic disease, diagnosis year, presence of sight and hearing problems, people individuals lived with, the status of having a caregiver, the relationship of the caregiver, education level of the caregiver, employment status of the caregiver and the caregiver's status of having a chronic illness.

3.4.2 | Hwalek-Sengstock Elder Abuse Screening Test (H-S/EAST)

It was developed by Neale et al. (1991). Turkish validity and reliability of the study were conducted by Özmete (2016). H-S/EAST consists of 14 items and three sub-dimensions. The responses to each item are 'Yes' and 'No'. The maximum possible score from the scale is 14, and the minimum possible score is 0. The higher the score, the higher the risk of elder abuse is. It was stated that scores of 3 and above on the test should be interpreted as abuse. Kuder Richardson (KR)-20 internal consistency coefficient the scale was found to be 0.81 (Özmete 2016). In the present study, KR-20 internal consistency coefficient was found to be 0.82.

3.4.3 | Death Anxiety Scale (DAS)

It was developed by Templer (1970). Turkish adaptation of the scale was conducted by Akça and Köse (2008). The scale has 15 items. The responses to each item are 'Yes' and 'No' (Templer 1970). A score of '1' is received for each 'yes' response to the first 9 items in the scale, '0' for 'no' response, '1' for each 'no' response to the other 6 items and '0' for 'yes' response. The score range in the scale is between 0 and 15. When the mean score on the scale is 7 and above, it means that death anxiety is high. As the score on the scale increases, the level of death anxiety increases. KR-20 internal consistency coefficient of the scale was found to be 0.75 (Akça and Köse 2008). In the present study, KR-20 internal consistency coefficient was found to be 0.70.

3.5 | Recruitment Process and Data Collection

During the data collection process, a calm and comfortable environment was arranged for the older individuals to feel comfortable and safe. After the individuals were informed that their information would be kept confidential and ethical principles would be followed, verbal and written consent was obtained. The data were filled in by the researcher by face-to-face interview. The data were collected in a quiet and comfortable environment where the participant and the researcher were alone. The surveys of illiterate patients were filled in by the researcher, while those who could read and write and wanted to fill in the surveys themselves were given the forms to fill in. Patient information (name, last name) was not recorded and the surveys were only numbered. The survey form was filled in approximately 10–15 min.

3.6 | Evaluation of Data

SPSS version 25.00 statistical package program was used for analysis of the research. Descriptive statistics of percentage,

mean and standard deviation were used. Kurtosis and skewness coefficients of each item of the scales and total and subscale mean scores were found to be between −2 and +2. According to this result, it was determined that the data were normally distributed (George and Mallery 2019) (DAS; Kurtosis (−1.220) and Skewness (−0.117) coefficients; H-S/EAST Kurtosis (−0.923) and Skewness (0.513) coefficients; for personal sub-dimension Kurtosis (−0.585) and Skewness (0.680) coefficients; for potential sub-dimension Kurtosis (−1.083) and Skewness (0.362) coefficients; for vulnerable sub-dimension kurtosis (−0.144) and Skewness (0.143) coefficients). Regression analysis was used to determine the nature of the relationship between variables and to predict the exact result. Simple linear regression analysis was used for those with two variables, one dependent and one independent and multiple regression analysis was used for those with more than one variable. In simple regression analysis, H-S/EAST total score was analysed as predictor and DAS total score as dependent variable. In the multiple regression analysis, the H-S/EAST total score was considered as the dependent variable in Table 3, and the descriptive characteristics of the patients were considered as the predictive variable. In Table 4, the DAS total score was considered as the dependent variable and the descriptive characteristics of the patients were considered as the predictive variable. All significant and non-significant results were added to Tables 3 and 4. A dummy variable was created for categorical predictor variables. Significance level was accepted as $p < 0.05$.

3.7 | Ethical Considerations

Approval was obtained for this study from the Non-Interventional Research Ethics Committee of REDACTED (REDACTED numbered). Permission was obtained from the scale owners. Before the research data started to be collected, the participants were informed about the research and their questions about the research were answered, and 'Informed Consent Principle' was fulfilled by obtaining the verbal and written consent of the participants. 'Autonomy Principle' was complied with by stating that the participants could withdraw from the research whenever they wanted. No one withdrew from the study during the data collection process. Participants were told that their personal information would be protected after being shared with the researcher and care was taken to comply with the 'Confidentiality and Protection of Confidentiality Principle'. The survey form was filled out after setting up a calm and comfortable environment where the participants would feel especially safe. The 'principle of anonymity and security' was fulfilled by stating that the information obtained and the identity of the respondent would be kept confidential.

4 | Results

4.1 | Demographic Characteristics

It was found that the mean age of older adults with chronic diseases who participated in the study was 73.07 ± 6.73 years and mean score for disease diagnosis year was 13.69 ± 8.17 years. It was found that 53.5% of the participants were female, 53.5% were married, 57.5% were illiterate, 95.2% had children, 7% were employed, 57% had an income lower than expense (poor), 37.5% had heart disease, 77.5% had health insurance, 53% had vision problems, 65.5% had hearing problems, 32% lived with their spouse, 56% had a caregiver, caregivers of 26% were their spouses. It was found that 17.5% of the caregivers had a secondary education degree, 29% were unemployed and 28.5% did not have a chronic disease (Table 1).

4.2 | Mean Elder Abuse and Death Anxiety Scores

DAS total mean score of the participants was found to be 8.66 ± 2.87. H-S/EAST total mean score was found to be 6.41 ± 3.78. When H-S/EAST sub-dimension mean scores were examined, mean score was found to be 1.60 ± 0.63 for vulnerable sub-dimension, 1.99 ± 1.51 for personal sub-dimension and 2.82 ± 2.24 for potential sub-dimension (Table 2). It was also found that 73% of the participants had a risk of abuse.

4.3 | Results of Multiple Linear Regression Analyses of Descriptive Characteristics on Elder Abuse

Multiple regression analysis was conducted to predict the relationship between descriptive variables such as age, gender, year of diagnosis, marital status, educational status, having children, employment status, income status, existing chronic disease, having social security, having vision problem, having hearing problem, people they lived with, having a caregiver, relationship of the caregiver, educational status of the caregiver, chronic disease status of the caregiver and employment status of the caregiver and the total mean score of H-S/EAST. The model created as a result of the analysis was found to be statistically significant ($F = 1.829$, $p < 0.05$). Of the variables included in the model, only age, gender and employment status were found to be statistically significant predictors of H-S/EAST total score in the positive direction ($\beta = 0.219$; $\beta = 0.251$; $\beta = 0.152$) (Table 3).

4.4 | Results of Multiple Linear Regression Analyses of Descriptive Characteristics on Death Anxiety

Multiple regression analysis was conducted to predict the relationship between descriptive variables such as age, gender, year of diagnosis, marital status, educational status, having children, employment status, income status, existing chronic disease, having social security, having vision problem, having hearing problem, people they lived with, having a caregiver, relationship of the caregiver, educational status of the caregiver, chronic disease status of the caregiver and employment status of the caregiver and the total mean score of DAS. The model created as a result of the analysis was found to be statistically significant ($F = 1.520$, $p < 0.05$). Of the variables included in the model, only gender was found to be a statistically significant predictor of the DAS total score in the positive direction ($\beta = 0.303$) (Table 4).

TABLE 1 | Descriptive characteristics of the patients ($n = 200$).

Demographic variables	*N*	%
Gender		
Female	107	53.5
Male	93	46.5
Marital status		
Married	107	53.5
Single	93	46.5
Educational status		
Illiterate	115	57.5
Literate	35	17.5
Elementary education	24	12
Secondary education	14	7
High school	7	3.5
University and above	5	2.5
The state of having children		
Yes	185	92.5
No	15	7.5
Employment status		
Yes	14	7
No	186	93
Income status		
Income < expense (poor)	114	57
Income = expense (moderate)	80	40
Income > expense (good)	6	3
Status of having social security		
Yes	155	77.5
No	45	22.5
Diagnosis of existing chronic diseases		
Hypertension	35	17.5
Heart disease	75	37.5
Diabetes	36	18
COPD	23	11.5
Benign/malign tumour	12	6
Asthma	19	9.5
Presence of vision problems		
Yes	106	53
No	94	47
Presence of hearing problems		
Yes	131	65.5
No	69	34.5
Individuals living with the patient		
Lives alone	44	22
Spouse	64	32
Spouse and other family members	46	23
Other family members	46	23
The state of having a caregiver		
Yes	112	56
No	88	44
Relationship of the caregiver		
Spouse	52	26
Daughter	44	22
Daughter-in-law	16	8
No caregiver	88	44
Educational status of the caregiver		
Illiterate	28	14
Elementary education	13	6.5
Secondary education	35	17.5
High school	20	10
University and above	16	8
No caregiver	88	44
Employment status of the caregiver		
Yes	54	27
No	58	29
No caregiver	88	44
Caregiver's state of having chronic disease		
Yes	57	28.5
No	55	27.5
No caregiver	88	44

	Min–max	Mean	SD
Age (years)	65–92	73.07	6.73
Diagnosis year (yr)	2–45	13.69	8.17

4.5 | Results of Simple Linear Regression Analyses on the Relationship Between Elder Abuse and Death Anxiety

As a result of the regression analysis, it was found that the independent variable ($F = 125.656$, $p = 0.000$) significantly affected the total score of DAS, which is the dependent variable. It was found that the variable included in the analysis

TABLE 2 | DAS and H-S/EAST mean scores of the participants ($n = 200$).

Scale	Number of items	Min. score	Max. score	Mean ± SD
DAS total	15	2	14	8.66 ± 2.87
H-S/EAST total	14	1	14	6.41 ± 3.78
Characteristics of the vulnerable older individual	3	0	3	1.60 ± 0.63
Violation of personal rights and direct abuse	4	0	4	1.99 ± 1.51
Identification of potential abuse	7	0	7	2.82 ± 2.24

Abbreviations: DAS: Death Anxiety Scale; H-S/EAST, Hwalek-Sengstock Elder Abuse Screening Test.

explained 38% of the total DAS score and had a positive effect ($\beta = 0.633$) (Table 5).

5 | Discussion

Examining elder abuse and death anxiety in older adults with chronic disease may help to better understand the components of elder abuse and death anxiety in this patient population. No studies were found examining elder abuse and death anxiety in older adults with chronic diseases.

It has been stated that scores of 3 and above from H-S/EAST which is used to evaluate elder abuse should be interpreted as abuse. The mean H-S/EAST score of the participants in this study was found to be 6.41 ± 3.78. In other studies conducted in different regions of Turkey, the means were found to be below 3 (Akyol 2022). H-S/EAST is the oldest tool developed to screen for elder abuse (Hwalek and Sengstock 1986). The H-S/EAST is a brief abuse screening tool suitable for a variety of settings. It has been considered as a pioneer in the development of other elder abuse screening tools. In different studies, a score of ≥ 3 emphasises a potential risk status (Gallione et al. 2017). Poverty, dependency, inadequate housing conditions and lack of social security are also considered among the factors that increase the likelihood of abuse. It is also stated that the health status and education level of the elderly are also important variables in exposure to abuse. These risk factors for elder abuse may vary in different regions. It is emphasised that factors such as poor health status and being functionally dependent are important risk factors for elder abuse (Pillemer et al. 2016). It is emphasised that factors such as poor health status and being functionally dependent are important risk factors for elder abuse (Pillemer et al. 2016). The presence of chronic diseases in the older individuals included in this study may have led to worsening of the physical condition and increased dependency This may have affected the results of abuse screening with H-S/EAST.

When the mean scores of sub-dimensions of the H-S/EAST scale were examined, it was found that the highest mean score belonged to the sub-dimension 'Determination of potential abuse status'. It was found that 73% of the older individuals in the study were at risk of abuse. When we look at other studies conducted in Turkey, we can see that the highest score belongs to this dimension (Ceylan, Sahin, and Özkaptan 2020; Şen and Meriç 2020; Yılmaz, Durmaz, and Arıkan 2022). The rate of abuse was 75.4% in a study conducted in Iran, 50.2% in a study conducted in India, 15.4% in China and 39% in Bolivia (Carmona-Torres et al. 2018; Du and Chen 2021; Nemati-Vakilabad et al. 2023; Saikia et al. 2015). Awareness of health professionals, recognising the signs of neglect and abuse, and knowing the risk groups are extremely important in helping older individuals for the prevention of abuse and neglect. The most important issue in elder abuse and neglect is unawareness of the problem or difficulties in detecting it. The reasons for these difficulties, which health personnel should consider in the evaluation of older individuals can be listed as personal and family reasons, inability to access information and resources, health workers and institutional barriers (Yeşil, Taşçı, and Öztunç 2016). Since victims of elder abuse frequently use health care systems, more screening should be implemented in health care settings. Outpatient practices, inpatient departments, home health care can play an important role in identifying potentially unsafe situations that may jeopardise the safety of older adults. Interventions such as effectively addressing the underlying issues, providing community-based services and involving the family appropriately can help prevent elder abuse (Dong 2015). Educational programmes can be organised for healthcare professionals, who have a key position in identifying elder abuse, to recognise abuse and to carry out appropriate interventions. Alt, Nguyen, and Meurer (2011) reported that educational programs increase the knowledge and competence of healthcare professionals on elder abuse. Considering the risk factors identified for elder abuse, it is very important to establish screening, programs and policies, especially for the prevention of abuse (Pillemer et al. 2016).

A positive relationship between female gender and elder abuse was found in the study. In other studies, it has been stated that female gender is a risk factor for abuse (Gil et al. 2015; Pillemer et al. 2016). Ho et al. (2017) found that women are more exposed to abuse than men (Ho et al. 2017). Due to the higher life expectancy of older women, the number of older women is higher than that of older men (Yon et al. 2019). Older women are more likely to live longer than their partners. This longevity increases the likelihood of exposure to risk factors for elder abuse, such as loss of independence and cognitive impairment (Jeon et al. 2019). Most older women have few sources of income, which can lead to a decrease in women's family and social status. Gender roles resulting from social culture also have a negative impact on women. Older women are more likely to give up in conflicts and to be insulted. Older women who do not have higher education are more dependent on the financial and emotional support of their husbands and adult children. As a result, older women

TABLE 3 | Results of multiple linear regression analyses of descriptive characteristics on elder abuse.

Dependent variables	Independent variables	B	SE	β	*t*	*p*	95% Confidence interval	
							Lower	Upper
H-S/EAST	Constant	−4.663	4.316		−1.081	0.281	−13.183	3.857
	Age	0.136	0.051	0.219	2.680	**0.008**	0.036	0.236
	Gender (female)	1.898	0.770	0.251	2.466	**0.015**	0.378	3.417
	Marital status (single)	1.196	1.515	0.158	0.790	0.431	−1.795	4.187
	Educational status (literate)	−0.287	0.812	−0.029	−0.354	0.724	−1.889	1.316
	Educational status (primary education)	−0.217	0.904	−0.019	−0.240	0.811	−2.001	1.567
	Educational status (secondary education)	−1.534	1.216	−0.104	−1.261	0.209	−3.934	0.867
	Educational status (high school)	−0.041	1.622	−0.002	−0.025	0.980	−3.244	3.162
	Educational status (university and above)	1.693	1.808	0.070	0.936	0.350	−1.876	5.262
	Status of having children (yes)	−1.328	1.083	−0.093	−1.226	0.222	−3.467	0.810
	Income (moderate)	0.710	0.621	0.092	1.143	0.255	−0.516	1.935
	Income (high)	−0.727	1.630	−0.033	−0.435	0.664	−4.025	2.571
	Social security (no)	−0.056	0.737	−0.006	−0.076	0.939	−1.511	1.399
	Vision problem (yes)	−0.420	0.645	−0.056	−0.651	0.516	−1.694	0.854
	Hearing problem (yes)	0.725	0.677	0.091	1.071	0.286	−0.612	2.063
	Employment status (yes)	2.316	1.150	0.152	2.014	**0.046**	0.046	4.588
	Chronic disease (heart)	−0.027	0.805	−0.003	−0.033	0.974	−1.616	1.563
	Chronic disease (diabetes)	−0.264	0.927	0.028	0.285	0.776	−1.566	2.094
	Chronic disease (COPD)	0.240	1.054	0.019	0.227	0.820	−1.842	2.321
	Chronic disease (tumour)	−0.537	1.279	−0.034	−0.420	0.675	−3.064	1.989
	Chronic disease (asthma)	−0.254	1.210	−0.020	−0.210	0.834	−2.643	2.135
	Year of diagnosis	−0.003	0.036	−0.006	−0.074	0.941	−0.074	0.068
	Individuals living with the patient (spouse)	1.323	1.655	0.163	0.799	0.425	−1.944	4.589
	Individuals living with the patient (spouse and other family members)	1.322	1.715	0.147	0.771	0.441	−2.063	4.708
	Individuals living with the patient (other family members)	−0.046	0.866	−0.005	−0.053	0.958	−1.756	1.665
	Caregiver (spouse)	−0.086	1.187	−0.010	−0.072	0.942	−2.429	2.257
	Caregiver (daughter)	−1.816	1.214	−0.199	−1.496	0.137	−4.214	0.581
	Caregiver (daughter-in-law)	1.913	1.435	0.137	1.333	0.184	−0.920	4.745
	Caregiver educational status (primary education)	−1.111	1.346	−0.073	−0.825	0.410	−3.768	1.547

(Continues)

TABLE 3 | (Continued)

Dependent variables	Independent variables	B	SE	β	*t*	*p*	95% Confidence interval	
							Lower	Upper
	Caregiver educational status (secondary education)	0.327	1.063	0.033	0.307	0.759	−1.772	2.425
	Caregiver educational status (high school)	−0.161	1.258	−0.013	−0.128	0.898	−2.645	2.323
	Caregiver educational status (university and higher)	0.649	1.445	0.047	0.449	0.654	−2.204	3.501
	Caregiver employment status (yes)	−0.326	0.741	−0.038	−0.440	0.661	−1.789	1.137
	Caregiver chronic disease (yes)	−0.307	0.812	−0.037	−0.378	0.706	−1.909	1.295
	$R = 0.516$	$R^2 = 0.267$						
	$F = 1.829$ Adjusted $R^2 = 0.212$	**$p = 0.007$**						

Note: $p < 0.05$. Bold values are the significance value.
Abbreviation: H-S/EAST, Hwalek-Sengstock Elder Abuse Screening Test.

with poor living conditions may also be at higher risk of abuse over time than men (Zhang et al. 2022). Women are more likely to be abused in culturally patriarchal societies (Jeon et al. 2019). This may also be one of the factors affecting abuse culturally. In addition to all these factors, having a chronic disease also increases the dependency status. It is thought that the factors mentioned in this study may have affected the results.

As a result of the study, a positive relationship was found between age and elder abuse. As age increases, exposure to abuse also increases. Similar results have been found in different studies (Gil et al. 2015; Pillemer et al. 2016). This may be related to the fact that they become dependent on daily living activities with increasing age and they become more vulnerable to abuse due to increased cognitive function loss. The dependency on caregivers in different areas increases with age. This situation increases the burden of caregivers and makes older individuals more vulnerable to abuse.

As a result of the study, a positive relationship was found between elder abuse and employment status. It was found that working older individuals were more abused. In the study of Akyol (2022), unlike the result of this study, it was concluded that older individuals who did not work were more abused. In Akyol's (2022) study, it was stated that individuals who do not work are exposed to more abuse due to financial dependency. In the study of Pillemer et al. (2016), it was stated that financial dependence is a potential risk factor for abuse. Poor financial status may be one of the reasons for working in old age and working older individuals may be exposed to financial abuse due to their income. In this study, it can be said that working individuals have a continuous income. Older individuals may make poor financial decisions due to the disadvantages associated with old age and may be more prone to be victims of fraud. This may increase the likelihood of being financially abused (Nemati-Vakilabad et al. 2023). It can be said that older working individuals are exposed to abuse more in this respect. For this reason, it can be said that working status is one of the factors affecting abuse in the study.

As a result of the study, it was concluded that older individuals had high levels of death anxiety. Similar to the results of this study, it has been determined in different studies that death anxiety is high in older individuals (Bakan, Arli, and Yıldız 2019; Chopik 2017). Everyone is a little worried about death as it is a unique event that must be experienced; however, different people may experience varying degrees of death anxiety (Turhan 2021). According to Yalom (2008), every individual experiences death anxiety personally. According to some, this anxiety accompanies the normal flow of life, while for others it is higher and difficult to cope with (Yalom 2008). Death, which comes to mind with chronic illness, causes anxiety in individuals due to its uncertainty (Karahan and Hamarta 2019). When we look at some of the factors affecting death anxiety in general, individuals can feel death anxiety intensely when they feel their own lives indirectly in danger (war, famine, etc.) (Turhan 2021). In this study, it can be said that both having a chronic disease and the recent pandemic have increased death anxiety.

As a result of the study, a positive relationship was found between death anxiety and female gender. Similarly, in different studies, it was concluded that women have higher death anxiety (Adelirad et al. 2021; Assari and Lankarani 2016; Erbesler and Demir 2022; Kutlu, Kendirkıran, and Şeko 2021). Death anxiety is a phenomenon affected by culture and many different variables (Pandya and Kathuria 2021). Ageing is a gender-based experience. Older women have special challenges associated with ageing due to the accumulated cultural, social, economic and health disadvantages throughout their lives (Cong and Pei 2017). Adelirad et al. (2021) stated that physical and social activity affects death anxiety in women, and death anxiety decreases as physical and social activity increases. Culturally, it

TABLE 4 | Results of multiple linear regression analyses of descriptive characteristics on death anxiety.

Dependent variables	Independent variables	B	SE	β	*t*	*p*	95% Confidence interval	
							Lower	Upper
H-S/EAST	Constant	2.104	3.354		0.627	0.531	−4.518	8.725
	Age	0.072	0.039	0.153	1.829	0.069	−0.006	0.150
	Gender (female)	1.742	0.598	0.303	2.912	**0.004**	0.561	2.923
	Marital status (single)	0.280	1.177	0.049	0.238	0.812	−2.044	2.604
	Educational status (literate)	0.518	0.631	0.069	0.820	0.413	−0.728	1.763
	Educational status (primary education)	−0.647	0.702	−0.073	−0.921	0.358	−2.033	0.739
	Educational status (secondary education)	0.548	0.945	0.049	0.580	0.562	−1.317	2.414
	Educational status (high school)	0.218	1.261	0.014	0.173	0.863	−2.271	2.707
	Educational status (university and above)	−0.842	1.405	−0.046	−0.599	0.550	−3.615	1.932
	Status of having children (yes)	−1.515	0.842	−0.139	−1.800	0.074	−3.177	0.147
	Income (moderate)	0.229	0.482	0.039	0.474	0.636	−0.724	1.181
	Income (high)	0.373	1.298	0.022	0.287	0.774	−2.190	2.936
	Social security (no)	−0.288	0.573	−0.042	−0.503	0.615	−1.419	0.842
	Vision problem (yes)	−0.051	0.502	−0.009	−0.101	0.920	−1.041	0.940
	Hearing problem (yes)	0.771	0.526	0.128	1.464	0.145	−0.269	1.810
	Employment status (yes)	1.200	0.894	0.107	1.342	0.181	−0.565	2.965
	Chronic disease (heart)	0.024	0.626	0.004	0.039	0.969	−1.211	1.260
	Chronic disease (diabetes)	0.421	0.720	0.058	0.584	0.560	−1.002	1.843
	Chronic disease (COPD)	−0.499	0.819	−0.052	−0.609	0.544	−2.116	1.119
	Chronic disease (tumour)	−0.997	0.994	−0.083	−1.002	0.318	−2.960	0.966
	Chronic disease (asthma)	0.323	0.940	0.033	0.344	0.731	−1.533	2.180
	Year of diagnosis	0.009	0.028	0.026	0.321	0.749	−0.046	0.064
	Individuals living with the patient (spouse)	1.187	1.286	0.193	0.923	0.357	−1.351	3.726
	Individuals living with the patient (spouse and other family members)	1.812	1.332	0.266	1.360	0.176	−0.819	4.443
	Individuals living with the patient (other family members)	0.628	0.673	0.092	0.932	0.352	−0.701	1.957
	Caregiver (spouse)	1.290	0.922	0.197	1.399	0.164	−0.531	3.110
	Caregiver (daughter)	1.135	0.944	0.164	1.202	0.231	−0.728	2.998
	Caregiver (daughter-in-law)	1.971	1.115	0.187	1.767	0.079	−0.231	4.172
	Caregiver educational status (primary education)	−1.944	1.046	−0.167	−1.858	0.065	−4.009	0.121

(Continues)

TABLE 4 | (Continued)

Dependent variables	Independent variables	B	SE	β	*t*	*p*	95% Confidence interval	
							Lower	Upper
	Caregiver educational status (secondary education)	−0.666	0.826	−0.088	−0.807	0.421	−2.297	0.964
	Caregiver educational status (high school)	−0.142	0.978	−0.015	−0.145	0.885	−2.072	1.788
	Caregiver educational status (university and higher)	−1.691	1.123	−0.160	−1.506	0.134	−3.908	0.525
	Caregiver employment status (yes)	−0.403	0.576	−0.062	−0.700	0.485	−1.540	0.734
	Caregiver chronic disease (yes)	−1.162	0.631	−0.183	−1.842	0.067	−2.407	0.083
	$R = 0.482$	$R^2 = 0.232$						
	$F = 1.520$ Adjusted $R^2 = 0.079$	$\mathbf{p = 0.047}$						

Note: $p < 0.05$. Bold values are the significance value.
Abbreviation: DAS, Death Anxiety Scale.

TABLE 5 | Results of simple linear regression analyses on the relationship between elder abuse and death anxiety.

Dependent variables	Model	Variables	B	SE	B	*t*	*p*	95% Confidence interval	
								Lower	Upper
DAS	**1**	**Constant**	5.627	0.314		17.919	**0.000***	5.007	6.246
		H-S/EAST	0.473	0.042	0.623	11.210	**0.000***	0.390	0.556
		$R = 0.623$	$R^2 = 0.388$						
		$F = 125.656$	$p = \mathbf{0.000}$*						

Note: $p < 0.05$. Bold values are the significance value. Abbreviations: DAS, Death Anxiety Scale; H-S/EAST: Hwalek-Sengstock Elder Abuse Screening Test.
*$p < 0.05$.

can be said that older women are more home-dependent, so their physical and social activities are more limited and less than men. Therefore, it can be thought that women experience higher levels of death anxiety.

In the study, it was concluded that elder abuse increased death anxiety. There is no study in the literature examining abuse and death anxiety together. Cognitive impairment (e.g., dementia), behavioural problems (e.g., agitation and sleep disorders), psychiatric illnesses or problems (e.g., depression and anxiety) and being physically and financially weak and dependent are important risk factors for elder abuse (Mion and Momeyer 2019). Many of these factors, which are considered as risk factors for elder abuse, are also risk factors for death anxiety (Adelirad et al. 2021; Kutlu, Kendirkıran, and Şeko 2021; Pandya and Kathuria 2021). Especially older people with chronic disease who have been abused have higher levels of depression, anxiety, high stress, anxiety and fear than those who have not (Rivara et al. 2019). Therefore, it can be thought that there is a positive relationship between elder abuse and death anxiety in the study.

5.1 | Limitations of the Study

In the study, data were collected through self-report scales; therefore, the possibility of common method biases should be considered. Second, a cross-sectional design aiming to determine cause–effect relationships was used in the study. Therefore, experimental and longitudinal studies are recommended for future research to investigate the relationships between these variables. Third, since the research was conducted with older individuals who have chronic diseases, different results may be in question for individuals who do not have chronic diseases.

6 | Conclusions

It was found that the participants had a moderate risk of abuse and a high level of death anxiety. Death anxiety increased as the risk of elder abuse increased in the participants. In addition, gender was found to be an important predictor of elder abuse and death anxiety. Further studies should evaluate gender

differences in elder abuse and death anxiety with respect to gender inequality and cultural gender roles. It was also found in our study that elder abuse increased death anxiety. For this reason, the relationship between elder abuse and death anxiety can be analysed with studies to be conducted in different cultures. In addition, individual and cultural factors that will affect these concepts should also be analysed. When the cultural factors affecting these two concepts in society are determined, elder abuse and death anxiety screening methods specific to the region can be developed. This study can be used as a source of descriptive data by raising awareness for support and protection strategies to be created for older individuals. In this sense, this study can be taken into consideration as a community research in abuse prevention and elderly protection policies.

Author Contributions

Seda Karaman: conceptualization, investigation, writing – original draft, writing – review and editing, supervision. **Gülcan Bahçecioğlu Turan:** conceptualization, methodology, investigation, writing – original draft, writing – review and editing, supervision. **Merve Çayır Yılmaz:** conceptualization, investigation, data curation, writing – review and editing. **Elanur Yilmaz Karabulutlu:** conceptualization, investigation, data curation, writing – review and editing.

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Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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