Research Article / Araştırma

Examination of death anxietys of earthquake victims in Turkey

Türkiye'deki depremzedelerin ölüm kaygılarının incelenmesi

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ABSTRACT

Aim: In this study, it was conducted to evaluate the relationship between Death Anxiety and what people experienced and lost during and after the earthquake after two major earthquakes in a row. **Materials and Methods:** This research was conducted as a descriptive study. The universe of the study consisted of 278 people in Malatya, where two major earthquakes were experienced on February 6, 2023. The data of the research Death Anxiety Scale were used. **Results**: Death Anxiety Scale score of earthquake survivors in the study was 51.51±21.83. A statistically significant relationship was found between the earthquake victims' age, gender, being alone at the time of the earthquake, being under the collapse in the earthquake, those who witnessed death in the earthquake and losing a loved one in the earthquake and the Death Anxiety Scale. It was determined that the earthquake victims' Death Anxiety Scale score was high. **Conclusion**: According to these results, it is observed that those who experienced earthquakes were left alone with many traumatic events after the earthquake and were mentally worn out in this process

ÖZ

Amaç: Bu çalışmada, üst üste yaşanan iki büyük depremin ardından insanların deprem sırasında ve sonrasında yaşadıkları ve kaybettikleri ile Ölüm Kaygısı arasındaki ilişkiyi değerlendirmek amacıyla yapılmıştır. **Materyal ve Metod**: Bu araştırma betimsel bir çalışma olarak yürütülmüştür. Araştırmanın evrenini 6 Şubat 2023 tarihinde iki büyük depremin yaşandığı Malatya ilindeki 278 kişi oluşturmaktadır. Araştırmada Ölüm Kaygısı Ölçeği verileri kullanılmıştır. **Bulgular**: Çalışmaya katılan depremzedelerin Ölüm Kaygısı Ölçeği puanı 51.51±21.83'tür. Depremzedelerin yaş, cinsiyet, deprem anında yalnız olma, depremde göçük altında kalma, depremde ölüme tanık olma ve depremde bir yakınını kaybetme durumları ile Ölüm Kaygısı Ölçeği arasında istatistiksel olarak anlamlı bir ilişki bulunmuştur. Depremzedelerin Ölüm Kaygısı Ölçeği puanının yüksek olduğu belirlenmiştir. **Sonuç**: Bu sonuçlara göre depremi yaşayanların deprem sonrasında birçok travmatik olayla baş başa kaldıkları ve bu süreçte ruhsal olarak yıprandıkları görülmektedir.

INTRODUCTION

Earthquake is a natural disaster that affects a large human population over a large area and has large-scale impacts on health, economy and social life (1). Turkey, one of the world's most active seismic belts, is located in the Mediterranean, Alpine-Himalayan seismic belt. Being in this region where earthquakes are frequently experienced, Turkey ranks 3rd in the world in terms of human loss in earthquakes and 8th in terms of the number of people affected by earthquakes (2).

Turkey was hit by two earthquakes on February 6, 2023 at 04:17 with a magnitude of 7.7 centered in Pazarcık district of Kahramanmaraş and then at 13:24 with a magnitude of 7.6 centered in Elbistan district of Kahramanmaraş. The earthquakes caused major building collapses and heavy building damage in eleven provinces including Kahramanmaraş, Malatya, Gaziantep, Adana, Şanlıurfa, Diyarbakır, Adıyaman, Osmaniye, Hatay, Kilis and Hatay. According to official figures, 46,104 of our citizens lost their lives and 80,278 of our citizens were injured (3).

Although some of the survivors of the earthquake are injured physically, all of them are injured spiritually. The earthquake, which creates trauma in a whole mass, also causes people to lose their family members, relatives, individuals from their social circles, and their material assets, meaning that it continues its impact for a lifetime (4,5). After the disaster of the century in Turkey, it was determined that the loss of relatives in the earthquake and the uncertainties after the earthquake increased people's intolerance and psychological distress (6).

Emerging mental disorders impair people's working power and will, and their mental concentration. On the other hand, the change of the spouse, child, parents, relatives, friends, neighbors and material values lost in the earthquake, as well as the change in the environment in which the person lives, also affects the working power and productivity with a natural psychological reaction called mourning (7).

Emerging mental disorders impair people's working power and will, and their mental concentration. On the other hand, the change of the spouse, child, parents, relatives, friends, neighbors and material values lost in the earthquake, as well as the change in the environment in which the person lives, also affects the working power and productivity with a natural psychological reaction called mourning, even if there is no disorder in the person (7). It is important to evaluate the experiences of people who have experienced the two biggest earthquakes of the century, affecting approximately 15,000,000 citizens (approximately 17% of the population) in 10 provinces (8).

Death anxiety is the fear, thoughts and beliefs that people have about death, which is seen as a part of our lives (9,10). In a study conducted in the literature, a relationship was found between death anxiety and somatic symptoms (11). Traumatic events such as earthquakes that shake people's sense of security and confront them with the reality of death have negative effects on human mental health. Somatic and physical symptoms are the most important individual expression of social and mental problems among different socio-cultural groups (12). In addition, challenging life events and accompanying psychiatric problems will often lead to increased somatic symptoms (13). When the reactions of people exposed to dangerous situations were examined in the studies in the literature, it was observed that the majority of the participants had the fear reaction in the first place (14,15). In the study of Şeker and Akman after the Van earthquake; 82% of the researchers stated that they often thought of death after the earthquake. In addition, 17% of the participants stated that the clearest emotion they felt after the earthquake was the fear of death (16). In the study conducted by Bilici et al., 63.4%

of the participants stated that they experienced fear of death after the Elazig earthquake (17).

Purpose: This study was conducted to evaluate the relationship between Death Anxiety and the experiences of people during and after the earthquake after two major earthquakes, which are seen as the disaster of the century and rare in history.

Research questions:

Does an earthquake affect people's death anxiety?

Is there a relationship between death anxiety of earthquake survivors and socio demographic characteristics?

MATERIALS AND METHODS

Type of Study: This research was conducted as a descriptive study.

Population and Sample of the Study:

The population of the study consisted of all individuals over the age of 18 in Malatya, where the earthquake took place on February 6, 2023. In determining the sample size, it was determined that a total of 278 earthquake victims should be reached with alpha = .05, 95% confidence level and 0.8 margin of error (18).

Place and Time of the Research: The research was collected online between February and March 2023, by sending a message to the earthquake victims' phones.

Inclusion criteria for the research:

Those who volunteered to participate in the research,

Those who live in the province where the earthquake occurred

Exclusion criteria from the study:

Those who did not volunteer to participate in the study

Data Collection Tools

The data of the research, the socio-demographic information form of the earthquake victims prepared by the researchers in the light of the literature, and the Death Anxiety Scale were used.

Death anxiety scale

The Death Anxiety scale developed by Sarıkaya was used. Although the scale is calculated on three sub-dimensions and the total score, it can also be evaluated on a single dimension. The scale consists of 20 items. While the scale is scored between 0-80, high scores

indicate high death anxiety. In the scale, 0-12 points indicate very low, 13-29 points low, 30-47 points moderate, 48-64 points high and 65-80 points indicate very high death anxiety. There is no reverse scored item in the scale (19). In the study, the Cronbach's Alpha coefficient of the Death Anxiety scale was found to be .94. In this study, Cronbach's Alpha coefficient was found to be .92.

Analysis of Data

SPSS 24 was used for statistical analysis. Descriptive statistics; frequency tables for categorical variables, mean, median, standard deviation values for numerical variables are given as minimum and maximum. In the evaluation of the data, t-test, one-way analysis of variance, internal consistency analysis and correlation were used to compare independent variables.

Ethical Principles of Research

Ethical approval (No. 23-4524) was obtained from the İnonu University Ethics Committee to conduct the study. The purpose, plan and benefits of the study were explained to the earthquake victims included in the study, and it was stated that they could leave the study whenever they wanted, and verbal consent was obtained from the volunteers.

RESULTS

The mean age of the earthquake victims in the study was 45.52±14.79. 70.1% of the earthquake victims were women, 51.4% were single, 30.2% were high school graduates, and 69.8% stated that their economic status was medium. 11.9% of the earthquake victims stated that they were alone during the earthquake, 15.8% were buried under the earthquake, 21.9% witnessed death in the earthquake, 32.7% stated that they lost their relatives during the earthquake (Table 1).

In the study, the socio-demographic characteristics of the earthquake victims and their death anxiety were compared. Accordingly, statistical significance was found between gender and death anxiety. It was determined that women's death anxiety was higher than men's. No statistically significant difference was found between the marital status of the earthquake victims and their death anxiety. In the study, no statistically significant difference was found between the education levels of the earthquake victims, their perceived economic level and their death anxiety. (p<0.05).

Table 1. Descriptive characteristics of earthquake victims

Descriptive Characteristics	Number (S)	Percent (%)
Gender		
Woman	195	70.1
Male	83	29.9
Marital status		
Married	135	48.6
Single	143	51.4
Education level		
Literate	45	12.2
Primary education	69	24.8
High school	84	30.2
University	80	28.8
Economical situation		
Good	46	16.5
Middle	194	69.8
Bad	38	13.7
Were you alone during the earthquake?		
Yes	33	11.9
No	245	88.1
Were you under rubble of the earthquake?		
Yes	44	15.8
No	234	84.2
Have you witnessed death in an earthquake?		
Yes	61	21.9
No	217	78.1
Did you lose a loved one in the earthquake?		
Yes	91	32.7
No	187	67.3
Age	45.52±14.79	

In the study, a significant relationship was found between the earthquake victims' state of being alone at the time of the earthquake and death anxiety. Accordingly, it was determined that individuals who were single at the time of the earthquake had higher death anxiety. A statistically significant difference was found between the state of being under the collapse in the earthquake and the death anxiety. It was determined that the death anxiety of those who were under the collapse in the earthquake was higher. In the study, it is seen that those who witnessed death in the earthquake and those who lost their relatives had higher death anxiety and statistical significance was determined. A statistically significant difference was found between the ages of the earthquake victims and their death anxiety. It was determined that the death anxiety scores of the younger ones were higher (p<0.05). (Table 2).

Table 2. Comparison of earthquake victims' socio-demographic characteristics and scale scores

Introductory features	n	Death Anxiety Scale	p
Gender			
Woman	195	53.64±23.10	t=2.509
Male	83	46.53±17.65	**p=.013**
Marital status			
Married	135	51.53±21.87	t=0.014
Single	143	51.50±21.77	p=.989
Education level			
Literate	45	43.23±22.30	
Primary education	69	50.67±26.11	F=1.737
High school	84	53.28±20.01	p=.160
University	80	52.58±21.31	
Economical situation			
Good	46	52.26±22.50	F=0.183
Middle	194	51.02±21.89	p=.833
Bad	38	53.15±21.14	
Were you alone during the earthquake?			
Yes	33	63.87±29.82	t=3.535
No	245	49.85±20.02	**p=.000**
Were you under rubble of the earthquake?			
Yes	44	87.02±16.65	t=12.729
No	234	46.56±17.45	**p=.000**
Have you witnessed death in an earthquake?			
Yes	61	61.96±23.32	t=4.366
No	217	48.58±20.51	**p=.000**
Did you lose a loved one in the earthquake?			
Yes	91	56.02±25.11	t=2.420
No	187	49.32±19.74	**p=.016**
Age		r=.-177**	
		p=.003	

DISCUSSION

In the literature, studies on post-earthquake death anxiety of individuals who experienced earthquakes are limited.

In the study, a significant difference was found between the gender of earthquake survivors and death anxiety. It was determined that earthquake survivor women had higher death anxiety than men. There are not many studies evaluating earthquake survivors with death anxiety scale in the literature.

It is seen that death anxiety has been studied in chronic, fatal diseases and COVID-19 patients. In the study in which Kandemir examined death anxiety during the COVID-19 process, similar findings were found with our research [20].

In the study conducted by Bilici et al. after the Elazig earthquake, it was determined that women's Anxiety scores were higher than men's and were statistically significant [17]. In Sarman's study on students who experienced the Elazig earthquake, it was determined that female students had higher Anxiety scores [21].

A statistically significant difference was found between the ages of the earthquake survivors and their death anxiety. It was determined that the death anxiety scores of the younger earthquake survivors were higher.

In studies conducted in the literature, similar to our research, it is seen that younger individuals are more afraid of death and have a negative attitude towards death (22,23,24).

In the study of Bilge et al. on nursing students, no statistically significant relationship was found between age and death anxiety. The fact that age groups are close and receive education on death is effective in this (24).

In the study, a significant relationship was found between the earthquake victims' state of being alone at the time of the earthquake and death anxiety. Accordingly, it was determined that individuals who were single at the time of the earthquake had higher death anxiety. Many factors such as being alone during two major earthquakes, being exposed to the shocking effect of the earthquake, and getting out of the wrecked building after the earthquake are very difficult for people. This experience is a process that is expected to increase people's death anxiety.

A statistically significant difference was found between earthquake survivors' being under the collapse and their death anxiety. It was determined that the death anxiety of those who were under the collapse in the earthquake was higher. In Kurt's study after the Van earthquake, a significant relationship was found between the state of being under the rubble and anxiety scores. It was determined that those who were under the debris had high anxiety scores (25). Experiencing a traumatic event such as an earthquake and then struggling to survive under the rubble for hours is a very chaotic trauma in human life. It is very difficult for people to overcome these traumas and overcome their death anxiety.

In the study, it was determined that those who witnessed death in the earthquake and those who lost their relatives in the earthquake had higher death anxiety. In studies in the literature, it was determined that those who lost a relative in an earthquake had higher anxiety and post-traumatic stress disorder scores (26,27).

Limitations of the Study

Syrian immigrant earthquake victims were not included in the study due to language problems. This situation constitutes the limitation of the study.

CONCLUSIONS

In the study, statistical significance was found between the age, gender, being alone at the time of the earthquake, the situation of being buried in the earthquake, witnessing the death of someone in the earthquake and losing a loved one in the earthquake, and the death anxiety scale. According to these results, it is observed that those who experienced earthquakes were left alone with many traumatic events after the earthquake and were mentally worn out in this process. Especially with the earthquake, the experiences so close to the risk of death should be well supported psychosocially in the process after the individuals.

Ethics Committee Approval

Ethical approval (No. 23-4524) was obtained from the İnonu University Ethics Committee to conduct the study

Informed Consent

Participation in this survey was anonymous, consensual and voluntary with informed consent provided by all respondents.

Peer-Review

Externally peer-reviewed.

Author Contributions

A.Ü.: Literature Search, Design, Supervision, Critical Review, Concept, Writing Manuscript, Materials, Data Collection and Processing

Y.H: Literature Search, Concept, Data Collection and Processing,

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