

Earthquake Perceptions of the Older Adults and Suggestions for Crisis Management Based on the İzmir Earthquake Experience: Qualitative Case Study

İzmir Deprem Deneyimiyle Yaşlı Erişkinlerin Deprem Algıları ve Kriz Yönetimine Yönelik Önerileri: Nitel Durum Çalışması

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This study is an extended version of the study oral presented at the 7th International Congress on Health Sciences and Life, 7-9 March, 2024, Burdur, Türkiye.

ABSTRACT Objective: This study aims to determine the earthquake perceptions of older adults who experienced İzmir earthquake and their suggestions on what to do before, during, and after the earthquake. **Material and Methods:** The study was conducted with aged 65 and over individuals who applied to the Geriatrics Outpatient Clinic of Ege University Faculty of Medicine Hospital, and experienced the İzmir earthquake on October 30, 2020. The research is an explanatory/descriptive case study from qualitative research designs. The study group was determined using convenience sampling and criterion sampling methods. Data were obtained using a personal information form and a semi-structured interview form. Descriptive analysis and content analysis methods were used to analyze the data obtained in this study. The codes related to the findings were grouped under the relevant themes, visualized, interpreted, and exemplified with direct quotations. **Results:** The majority of the 25 participants (36%) were between the ages of 71-76 and 56% were women. As a result of the research, it was determined that the most fear and panic were experienced during and after the earthquake, earthquake news caused the most sadness, and the most anxiety about the earthquake was the anxiety of experiencing a more severe earthquake. In this study, it was determined that the participants concentrated on the suggestions that earthquake kits should be prepared before the earthquake, life triangle should be sheltered during the earthquake and economic problems should be solved after the earthquake. **Conclusion:** Identifying older adults' experiences, concerns, and suggestions regarding earthquakes can help develop age-appropriate strategies to better address their needs in future disasters.

Keywords: Earthquakes; disasters; earthquake perception; older adult; qualitative research

ÖZET Amaç: Bu çalışmanın amacı, İzmir depremini yaşamış yaşlı erişkinlerin deprem algılarını ve deprem öncesi, sırası ve sonrasında yapılması gerekenlere ilişkin önerilerini belirlemektir. **Gereç ve Yöntemler:** Bu araştırma, Ege Üniversitesi Tıp Fakültesi Hastanesi Geriatri Polikliniğine başvuran, 30 Ekim 2020 İzmir depremini yaşamış 65 yaş ve üstü bireylerle yapılmıştır. Araştırma, nitel araştırma desenlerinden açıklayıcı/tanımlayıcı durum çalışmasıdır. Çalışmanın örnekleme, kolayda örnekleme ve ölçüt örnekleme yöntemleri kullanılarak belirlenmiştir. Veriler, kişisel bilgi formu ve yarı yapılandırılmış görüşme formu kullanılarak elde edilmiştir. Bu çalışmada, elde edilen verileri analiz etmek için betimsel analiz ve içerik analizi yöntemlerinden yararlanılmıştır. Elde edilen bulgulara ilişkin kodlar, ilgili temalar altında toplanarak görselleştirilmiş ve doğrudan alıntılarla desteklenerek yorumlanmıştır. **Bulgular:** Çalışmaya dâhil edilen 25 katılımcının çoğunluğu (%36), 71-76 yaşları arasında olup, %56'sı kadındır. Araştırma sonucunda, deprem sırasında ve sonrasında en fazla korku ve panik durumunun yaşandığı, deprem haberlerinin en fazla üzüntüye neden olduğu, deprem ile ilgili en fazla kaygının ise daha şiddetli bir deprem yaşama kaygısı olduğu saptanmıştır. Araştırmaya katılan katılımcıların, deprem öncesine yönelik deprem çantası hazırlanmalı, deprem sırasında yönelik yaşam üçgenine sığınılmalı, deprem sonrasında ilişkin olarak ise ekonomik problemler çözülmeli önerilerinde yoğunlaştığı belirlenmiştir. **Sonuç:** Yaşlı erişkinlerin depremlerle ilgili deneyimlerini, endişelerini ve önerilerini belirlemek, gelecekteki afetlerde ihtiyaçlarını daha iyi karşılamak için yaşa uygun stratejiler geliştirmeye yardımcı olabilir.

Anahtar Kelimeler: Depremler; afetler; deprem algısı; yaşlı erişkin; nitel araştırma

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The United Nations Office for Disaster Risk Reduction has defined disaster as “A serious disruption of the functioning of a community or a society at any scale due to hazardous events interacting with conditions of exposure, vulnerability and capacity, leading to one or more of the following: human, material, economic and environmental losses and impacts”.¹ Earthquakes are one of the most common natural disasters in the world. Türkiye experiences severe earthquakes, and İzmir is one of the provinces with the highest earthquake risk. In the earthquake of magnitude 6.6 that occurred in İzmir on October 30, 2020, 117 people died.²

In disaster management literature, vulnerable groups are defined as populations at greater risk during disasters due to limited capacity for self-protection and increased need for external support.³ These groups include children, older adults, people with disabilities, and individuals with language barriers.⁴⁻⁶ Older adults are considered particularly vulnerable because of declines in mobility, physical health, and sensory functions.⁷ Studies indicate that they often experience difficulties such as limited awareness of disaster impacts, restricted access to information and assistance, and social isolation.⁸ Consequently, disasters are associated with higher injury, mortality, prolonged hospitalization, slower recovery, reduced quality of life, and poorer psychological well-being among older adults.⁵

To reduce the losses, joint action plans for the aftermath of disasters, prepared by caregivers of vulnerable individuals, local governments, and state institutions, can be effective. Considering the deficiencies in disaster education in Türkiye and the fact that older adults are among the vulnerable groups in disasters, it is of great importance to determine the disaster experiences of older adults and to fill the gaps in this field of research. This study aims to determine the perceptions of individuals aged 65 years and older who experienced the earthquake in İzmir on October 30, 2020, and to compile their suggestions on what actions should be taken before, during, and after an earthquake.

MATERIAL AND METHODS

This is a qualitative study with a survey model aimed at evaluating the existing situation in depth and detail. The case study design, which is a qualitative research design, has been adopted.

ETHICS COMMITTEE APPROVAL

Ethics committee approval for this research was received from the Ege University Medical Research Ethics Committee (date: September 21, 2023; no: 23-9.1T/33). In addition, the necessary official permissions were obtained from the department under which the research was conducted. The research was carried out in accordance with the Declaration of Helsinki. Furthermore, informed consent was obtained from all participants.

STUDY SAMPLE

In qualitative research, which is more effective for understanding people's beliefs, life experiences, attitudes, behaviors and interaction patterns, the depth and quality of data are prioritized instead of the number of participants; hence, samples selected for this purpose are preferred.^{9,10} Since the aim of qualitative research is not to represent a wider population, it is more appropriate to determine the participants purposively instead of using random sampling methods.^{11,12} Therefore, the convenience and criterion sampling methods were employed to form the study group of this research. The convenience sampling method offers speed and practicality to the researcher. In qualitative research, the size of a study group varies depending on the purpose, problem, sources and preferred design of the research.¹³ To facilitate transferability, the sample size should be large enough to capture a wide range of experiences but small enough to ensure that the data collected from the participants are not repetitive.¹⁴ Although there is no precise mathematical formula for determining sample size, the concept of data saturation is usually taken as a basis.¹⁵ Data saturation is defined as the termination of data collection at the point where sufficient information is provided for the research and no new themes emerge.^{16,17} Although this stage indicates that a sufficient sample size has been reached,

determining the saturation point depends on the conceptual competence of the researcher.¹⁸ In this method, the researcher selects a study group that is easy to access due to the limitations in terms of time, money, and labor force.^{12,19} The population of the current study consisted of patients who visited the Geriatrics Outpatient Clinic of Ege University Faculty of Medicine Hospital between October 2023-January 2024. In the criterion sampling method, the individuals to be included in the sample are determined according to certain criteria.^{19,20} Accordingly, in the current study, the inclusion criteria were being 65 years of age and older, having experienced the İzmir earthquake on October 30, 2020 and volunteering to participate in the study data saturation was considered to be achieved with the data obtained from 25 participants.

DATA COLLECTION

Although questions are generally predetermined, new questions can be added or changed according to the flow of the interview.

The first version of the interview form was submitted to experts to ensure content validity, and necessary corrections were made according to experts' opinions. The researchers piloted the interview form 3 times before the actual interview. A semi-structured interview form consisting of 7 questions was created by making the necessary corrections based on the pilot interviews.

The interviews were conducted in outpatient clinic settings, through face-to-face meetings lasting approximately 30-40 minutes, and the interviewers took care to foster a friendly and comfortable atmosphere. The audio recordings of the interviews were transcribed, edited, and analyzed by the interviewer on the same day.

DATA ANALYSIS

In this study, descriptive analysis and content analysis methods were used to analyze the data obtained using interview forms. The data for current study were collected and analyzed between October 2023-January 2024. The data analysis involved the following stages: developing the conceptual framework,

coding the data, presenting the data, and interpreting the data within the conceptual framework. The findings were supported by direct quotations using the numbering system (P1, P2 ... P25) representing the order of the participants (P) in the analysis process. The findings obtained as a result of the analysis and visualized in the tables were interpreted by considering the themes and the opinions with the highest intensity.

Validity and Reliability

To ensure the internal validity of the study, the findings are presented with frequent direct quotations to support them. In addition, the findings presented in the discussion section are discussed holistically. To increase the credibility of the research, consistency was ensured in the processes of data collection, analysis and interpretation. Furthermore, to ensure external validity, the research methods and designs employed, and the reasons for their use, the sampling techniques used for determining the study group, the characteristics of the study group, and the data collection and analysis process are explained in detail. The necessary explanations for testing the research findings in other settings are also included in the research report.

To ensure the internal reliability of the research, the results were presented in line with the findings. The research questions were asked in the same style to all participants, confirming that these questions were clearly stated.

Miles and Huberman's formula for percentage agreement, namely " P (Percentage Agreement %) = $\frac{Na \text{ (Agreement)}}{Na \text{ (Agreement)} + Nd \text{ (Disagreement)}} \times 100$ " was used to evaluate the reliability of the research, and the percentage agreement in the coding was thus calculated as 86%.²¹ According to Yıldırım and Şimşek, when the percent agreement is 70%, the reliability percentage is reached.¹⁹

Furthermore, to ensure external reliability in the research, the research method and research process, the data collection and analysis process, and findings and interpretations are explained clearly and in detail. The interviews were recorded with a voice recorder to prevent data loss. All kinds of data collected have been preserved.

TABLE 1: Sociodemographic and medical data of participants

Personal information		n	%
Age (years)	65-70	5	20
	71-76	9	36
	77-82	7	28
	83 and above	4	16
Gender	Female	14	56
	Male	11	44
Education level	Primary school graduate	8	32
	Secondary school graduate	5	20
	High school graduate	1	4
	University and above	11	44
Marital status	Married	12	48
	Single	1	4
	Widow	11	44
	Divorced	1	4
People he/she lives with	Alone	9	36
	Wife/husband	10	40
	Children	3	12
	Wife and children	2	8
	Grandchild	1	4
Who she/he was with during the İzmir earthquake	Alone	11	44
	Wife/husband	8	32
	Children	1	4
	Public place	2	8
	Grandchild	2	8
	Relative	1	4
Where she/he was during the İzmir earthquake	Home	18	72
	Public place	2	8
	Market	2	8
	Cafe	1	4
	Garden	1	4
	Restaurant	1	4
Income level	Income less than expenditure	8	32
	Income equal to expenditure	15	60
	Income more than expenditure	2	8
Diagnosed chronic diseases (more than one checked)	No	2	8
	Heart disease	7	28
	Hypertension	16	64
	Diabetes	6	24
	Parkinson's disease	2	8
	Stroke	1	4
	Lung disease	5	20
	Rheumatic disease	2	8
	Other	3	12
Movement limitation	Yes	8	32
Visual impairment	Yes	15	60
Hearing impairment	Yes	2	8
Need for assistance in performing ADLs	Yes	2	8

ADLs: Activities of daily living

RESULTS

The 25 participants were between 66 and 85 years, and 56% were women. Most of the participants stated that they had been alone (44%) and at home (72%) at the time of the earthquake. The sociodemographic and medical data of the participants are presented in Table 1.

Upon reviewing the interviewed older adults' opinions about the difficulties they experienced during the earthquake, it can be seen that they primarily felt fear and panic as well as worry and anxiety (Table 2). Sample expressions related to the codes obtained within the scope of this theme are listed below:

"... at the time of the earthquake, I immediately unlocked the door in fear and panic and I was left standing..." (P19)

"... at that moment, I panicked and I didn't know what to do because I had balance and movement limitations..." (P22)

Upon examining the older adults' opinions regarding the difficulties they experienced after the İzmir earthquake as well as their suggested solutions, it can be seen that the older adults felt fear and panic and that their suggested solutions mainly included staying away from home, praying, and staying calm (Table 3). Sample expressions related to the codes obtained within the scope of this theme are presented below:

"... I couldn't enter my house after the earthquake because of fear..." (P19)

TABLE 2: Challenges experienced by participants during the earthquake

Theme	Code and frequency
Difficulties experienced during the earthquake	Fear and panic (7)
	Worry and anxiety (3)
	Fear of being trapped in debris (2)
	Shock and surprise (1)
	Communication and transportation difficulties (1)
	Staying on the street (1)
	Fainting (1)
	Triggering chronic diseases (1)
	Balance and movement difficulties (1)

TABLE 3: Participants' difficulties and solution suggestions after the İzmir earthquake

Code		
Theme	Difficulty (frequency)	Solution (frequency)
Difficulties experienced during the earthquakes	Fear and panic (13)	Staying away from home (5)
		Praying (3)
		Stay calm (2)
		Being with relatives (1)
		Communicating with relatives (1)
	Communication difficulties (3)	Taking precautions (1)
		Avoiding unnecessary occupation of the lines (3)
	Psychological difficulty (1)	Moving (1)
	Trauma (1)	Avoiding social media (1)
	Concern (1)	Moving (1)
	Earthquake traces in the house (1)	Repairing (1)

“... I prayed that God would never let such a disaster happen again...” (P20)

Furthermore, it can be seen that the older adults felt sadness and shock the most as a result of the news they watched on different channels after the İzmir earthquake (Table 4). Sample expressions related to the codes obtained within the scope of this theme are as follows:

“... when I watched the news and saw people staying in tents, I felt very sad...” (P20)

“... I watched it on social media, but I felt sad that I couldn't help those who were trapped in the debris and I wonder what I would do if I were them...” (P22)

It can be seen that the older adults' most common concerns regarding a possible earthquake were experiencing a more severe earthquake, experiencing the same feelings again, and staying on the street after an earthquake (Table 4). Sample expressions related to the codes obtained within the scope of this theme are presented below:

“... I worry that if there is another earthquake, my house will collapse and I will be trapped under it...” (P20)

“... I worry that I can't leave the house because of mobility limitations...” (P22)

The older adults' suggestions regarding what actions to take before a possible earthquake comprised

preparing an earthquake kit, calling for urban renewal, preparing an earthquake plan, and ensuring houses are earthquake-resistant (Table 4). Sample expressions related to the codes obtained within the scope of this theme are given below:

“... first of all, I prepared an earthquake bag and placed all the materials I would need both during and after the earthquake, including my valuables and important documents...” (P24)

“... if our house is not earthquake resistant, we should apply to the necessary authorities for the renewal...” (P24)

The older adults' suggestions regarding what actions to take during a possible earthquake were focused on positioning oneself in the triangle of life and following a previously determined earthquake plan (Table 5). Sample expressions related to the codes obtained within the scope of this theme are presented below:

“... a triangle of life should be designated next to the fixed cabinets in case of an earthquake...” (P20)

“... we should stay calm during the earthquake and act in accordance with the earthquake plan we have previously determined...” (P24)

Furthermore, the older adults' suggestions regarding what actions to take after a possible earthquake were focused on the issues of eliminating economic problems, helping clear the debris, and

TABLE 4: The effects of the news about the earthquake watched by participants from different media channels, their concerns and suggestions about a possible earthquake

Theme	Code (frequency)
Media effect after the earthquake	Sadness (6)
	Shock (5)
	Fear (3)
	Empathy (2)
	Rage (2)
	Concern (2)
	Anger (1)
	Insomnia (1)
	Stress (1)
	Anxiety (1)
Concern	Experiencing more severe earthquakes (5)
	Experiencing the same feelings again (3)
	Staying on the streets after the earthquake (3)
	Inability to leave the house (2)
	Relatives' trapping in the debris (1)
	Insecurity (1)
	Failure to deliver aid (1)
	Inability to find shelter after an earthquake (1)
	Inability to reach relatives (1)
Suggestions	Preparing an earthquake kit (8)
	Urban renewal (6)
	Earthquake plan preparation (5)
	Earthquake control of the house (5)
	Cooperation with municipalities (4)
	Preparation of living spaces for the older adults (4)
	Increasing the number of tents and containers by the government (4)
	ID, money, phone, and charger (4)
	Gathering areas (4)
	Whistle and flashlight (4)
	Earthquake education (2)
	Earthquake insurance (2)
	Earthquake cage (1)
	Earthquake organization from one place (1)
	Keeping calm (1)
	Securing furniture (1)
	Trusting in God (1)
	Provision of building security (1)

TABLE 5: Suggestions of older adults for a possible earthquake moment and after the earthquake

Theme	Code and frequency
Suggestions for a possible earthquake	Positioning in the triangle of life (15)
	Following earthquake plans (10)
	Positioning in the fetal position (7)
	Not using stairs (5)
	Calming down (5)
	Going to an assembly area (4)
	Not using the elevator (4)
	Trying to make people hear our voices (3)
	Getting out of the house (3)
	Standing away from windows (3)
	Praying (2)
	Not going out on the balcony (2)
	Not walking (2)
	Securing things (1)
	Helping others (1)
	Establishing communication (1)
	Psychological preparation (1)
Suggestions for the aftermath of a possible earthquake	Addressing economic problems (6)
	Helping debris removal (4)
	Gathering in an assembly area (4)
	Giving moral support to the earthquake victims (2)
	Providing psychological support (2)
	Trying to make people hear our voices (2)
	Solving housing problems (2)
	Paying earthquake insurance (2)
	Maintaining communication (2)
	Moving to a safe zone (1)
	Supporting relocation (1)
	Establishing an elderly residence system (1)
	Shutting off electricity, water, and gas (1)
	Providing a place to get medicines (1)
	Helping dogs (1)
	Sharing earthquake precautions (1)
	Institutional support (1)

gathering in assembly areas (Table 5). Sample expressions related to the codes obtained within the scope of this theme are listed below:

“... those trapped in the debris should be helped until emergency aid arrives...” (P17)

“... since I am retired, it is very important for me to eliminate the economic problem...” (P18)

DISCUSSION

Previous studies suggest that prior disaster experience does not always directly improve disaster preparedness, although it may indirectly influence preparedness behaviors.^{22,23} Consistent with this, older adults in the present study, who had previously experienced earthquakes, provided several preparedness-related

recommendations. Fear and panic were the most common emotions during and after the earthquake, while earthquake-related news mainly evoked sadness. Participants' primary concern was the possibility of a more severe earthquake. Their main recommendations included preparing emergency kits before earthquakes, using the triangle of life during earthquakes, and addressing economic problems after disasters. Consistent with this, older adults in the present study, who had previously experienced earthquakes, provided several preparedness-related recommendations. Fear and panic were the most common emotions during and after the earthquake, while earthquake-related news mainly evoked sadness. Participants' primary concern was the possibility of a more severe earthquake. Their main recommendations included preparing emergency kits before earthquakes, using the triangle of life during earthquakes, and addressing economic problems after disasters.

Previous studies conducted in Türkiye have reported above-average fear of earthquakes and disasters, with earthquakes identified as the most feared disaster type.^{24,25} Consistent with these findings, participants in the present study most frequently experienced fear and panic during and after the earthquake, and their primary concern was the possibility of a more severe earthquake. This high level of fear may be associated with the significant earthquake risk in Türkiye and İzmir, as well as participants' prior earthquake experiences. Additionally, older adults may remain psychologically vulnerable after disasters because mental health services are often limited by a greater focus on physical problems, prioritization of younger populations, and insufficient recognition of existing psychological needs.²⁶

Increasing disaster preparedness is considered one of the most effective ways to reduce disaster-related losses and vulnerability.²⁷ Previous studies have reported inconsistent findings regarding the relationship between fear and preparedness, with some showing a positive association and others indicating a negative relationship.²⁸⁻³⁰ In the present study, participants provided numerous recommendations for pre-disaster precautions, suggesting that earthquake-related fear may encourage preparedness behaviors

among older adults. Previous research has also shown that disaster knowledge and education positively influence earthquake risk perception and fear.^{31,32} Consistent with earlier findings, older adults in this study reported fear, anxiety, uncertainty, and physical difficulties after the earthquake, highlighting the importance of disaster education to reduce earthquake-related fear among older adults.³³

A previous study found that 56% of the participants had an evacuation plan and 54% had an earthquake kit.³⁴ In the present study, participants emphasized preparing earthquake kits and plans, and many stated that an earthquake plan should be followed during disasters. These findings suggest that prior earthquake experience may positively influence disaster preparedness. However, preparedness is also shaped by factors such as awareness, education, and socioeconomic status. While traumatic experiences may increase preparedness in some individuals, they may also lead to anxiety and avoidance in others. Therefore, community-based education programs and awareness campaigns are essential to promote effective disaster preparedness.

In this study, one participant was worried about not being able to find shelter after the earthquake, and 3 participants suggested moving out of their homes as a solution to the post-earthquake-related problems (psychological difficulty, trauma, and anxiety) Ahmadi et al. found that older adults had to change where they lived due to post-earthquake conditions, which disrupted routine care and made it difficult for them to meet their needs.³³ These findings show that earthquakes have not only physical but also psychological and socioeconomic effects. The importance of psychosocial support after a disaster is emphasized by how the participants experienced anxiety about shelter after the earthquake and how some of them considered moving as a solution to cope with the psychological effects. However, the fact that 44% of the respondents in a study conducted in Kuala Lumpur were hesitant to leave their homes reveals the complexity of the evacuation process and the attachment of individuals to their homes.³⁴ It is evident that post-disaster decisions are shaped not only by physical safety but also by psychological factors, social relations, and economic status. There-

fore, it is necessary to plan the post-disaster resettlement process in accordance with the needs of individuals and to provide supportive services, especially for older adults.

In Mohammed-pajoooh and Aziz's study, it was identified that the most common problem among people affected by disasters was communication difficulty and that the majority of people preferred to use the Internet.³⁴ In the current study, 3 participants stated that they encountered communication difficulties after the earthquake, and as a solution, they suggested that unnecessary outage of telephone lines after disasters should be avoided. These findings emphasize the challenges faced by communication infrastructure during disasters and the impact of this situation on individuals. However, the inaccessibility of communication channels in disaster areas is directly related not only to infrastructure damage but also to power outages. Therefore, in disaster management planning, it is important to both identify alternative communication channels and develop solutions to ensure energy continuity.

In a previous study, some participants who needed medicines stated that they could not find medicines early in the first week after the earthquake.³³ In the current study, only one participant stated that "there should be a place where we can buy our medicines". This shows that, although most older adults use more than one medicine due to their comorbidities, most of them do not consider or prepare for such an important problem. Therefore, aid organizations must focus on meeting the medication needs of older adults after an earthquake. This situation emphasizes the necessity of pre-disaster awareness raising and planning. In the study by Ahmadi et al., stated it was found that one participant's health worsened after the earthquake.³³ In the current study, a participant similarly stated that his chronic diseases were triggered after the earthquake. These similar findings indicate that disasters can trigger chronic diseases and that health management should be handled carefully in post-disaster processes. Therefore, the supply of medicines and access to health services should be prioritized in disaster management policies. For older adults in particular, planning post-disaster drug distribution, providing mobile health services,

and establishing regular follow-up mechanisms are vital in preventing health complications.

Earthquakes and the resulting damage can cause fear and panic, often intensified by media coverage.³⁵ In this study, earthquake-related news on different media channels evoked sadness, shock, fear, anger, and concern among participants. Since older adults are psychologically more vulnerable after disasters, media content should use balanced and supportive language and avoid creating unnecessary panic. Increasing media literacy may also promote more conscious media consumption.

LIMITATIONS

First, the results of this qualitative research conducted with a small sample can't be generalized. Secondly, this study does not provide information on the extent of the earthquake's impact on the participants' environment, e.g. loss of life, property damage or presence of collapsed buildings. In addition, socio-demographic factors that influence both the impact of disasters and perspectives on solutions are not included in the study.

CONCLUSION

The most effective way to minimize disaster-related losses and damage is to be prepared for disasters. Considering older adults' concerns about a possible earthquake, it would be beneficial to create a tracking system to locate and identify older adults in advance, in addition to providing training to older adults, caregivers, and workers in disaster-related aid organizations. In Türkiye, the income level during retirement is generally not high. Therefore, considering issues such as losing their homes after the earthquake, experiencing economic difficulties, and suffering from chronic diseases, one of the most important problems faced by older adults in the post-disaster period seems to be housing and access to health services to maintain their quality of life. Thus, it is of great importance to determine possible current situations and structure appropriate environments in public planning.

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Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise,

working conditions, share holding and similar situations in any firm.

Authorship Contributions

Idea/Concept: Dilek Doruk Kondakcı, Ayşe Gülay Şahan, Aslı Kılavuz; **Design:** Dilek Doruk Kondakcı, Ayşe Gülay Şahan, Aslı Kılavuz; **Control/Supervision:** Aslı Kılavuz; **Data Collection and/or Processing:** Dilek Doruk Kondakcı, Aslı Kılavuz; **Analysis and/or Interpretation:** Ayşe Gülay Şahan, Aslı Kılavuz; **Literature Review:** Dilek Doruk Kondakcı, Ayşe Gülay Şahan, Aslı Kılavuz; **Writing the Article:** Dilek Doruk Kondakcı, Ayşe Gülay Şahan, Aslı Kılavuz; **Critical Review:** Aslı Kılavuz.

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