

Experiences of Earthquake Victim Families in the Disaster of the Century: A Qualitative Study

Fadime Cinar¹, Zeynep Kaplan Afacan^{2*}, Evin Korkmaz³, Fatma Eti Aslan³

¹Department of Nursing, Faculty of Health Sciences, Istanbul Nisantasi University, Istanbul, Turkey. ²Department of Nursing, Institute of Graduate Studies, Bahcesehir University, Istanbul, Turkey. ³Department of Nursing, Faculty of Health Sciences, Bahcesehir University, Istanbul, Turkey.

Abstract

Disasters significantly affect either the whole or a part of society, disrupt the course of life, and cause lasting financial and emotional damage. This study was conducted to reveal the experiences, losses, and expectations of families who were forced to leave their homes after the earthquakes centered in Kahramanmaraş, Turkey on February 6, 2023. This qualitative study was conducted with earthquake victims between 16 March 2023 and 19 March 2023. The criterion sampling method was used to select the participants, and nine participants from four different families were included in the study. A personal information form and an unstructured questionnaire were administered to collect data. The data were collected through sound recordings. The audio recordings were transcribed verbatim into written documents, and the data were analyzed using coding-based content analysis. All participants reported that they had experienced an earthquake before. Two main themes and six sub-themes were obtained from the analyses. The participants reported that their support systems were strong (77.7%), that the earthquake was a real phenomenon (55.5%).

The participants also remembered the early moments of the earthquake (100%), mentioning experiencing both material and spiritual losses (100%), that they had not received help during the first few days (66.6%), that they faced challenges with their basic needs, particularly clothing (77.7%), security (66.6%), and heating (66.6%), and that their lives changed after the earthquake (100%). Further studies are recommended through using larger sample size and that research be conducted reflecting the experiences of earthquake victims in the later stages.

Keywords: Earthquake, Family, Earthquake victim, Support, Basic needs

INTRODUCTION

Throughout human history, many disasters have occurred. Phenomena that significantly and negatively affect the entire society or a part of it, interrupt or stop the flow of life, and cause economic, social, physical, and psychological losses in individuals are defined as disasters [1]. Disasters can occur due to natural factors as well as technological ones, additionally, they can be human-made. Disasters such as floods, avalanches, and earthquakes are defined as natural disasters [2]. The magnitude of a disaster is determined by the number of deaths and the material and financial losses it causes. Moreover, disasters have a negative impact on the social and psychological well-being of the affected individuals [3].

Turkey has experienced many losses due to earthquakes throughout history. Two earthquakes with magnitudes of 7.7 and 7.6 struck two different districts of Kahramanmaraş on February 6, 2023, affecting eleven provinces, resulting in over 41.000 deaths and forcing hundreds of thousands of people to abandon their homes [4]. Many earthquake victims in the most affected provinces of Kahramanmaraş and Hatay had to leave their homes and take shelter in the homes of their relatives [4]. It is an inevitable consequence that both being

earthquake victims and having to relocate cause changes in people's social and family roles [3, 5, 6].

This study aims to present the experiences, losses, and expectations of families affected by the earthquake, known as the "Disaster of the Century," in Turkey on February 6, 2023, from their points of view.

Research Questions

1. What were the participants' lives like before the earthquake?

Address for correspondence: Zeynep Kaplan Afacan, Department of Nursing, Institute of Graduate Studies, Bahcesehir University, Istanbul, Turkey. zeynepkaplan.f@gmail.com

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2. How did the earthquake affect the participants?

MATERIALS AND METHODS

This study was designed as a single-case study, which is a qualitative research method that allows for an in-depth examination of a specific topic [7]. While there have been studies on the changes in family relationships and child-mother relationships among individuals affected by earthquakes [8], there is a lack of comprehensive research on the experiences of families. Therefore, a qualitative study was designed to better understand the changes in the family life of earthquake victims based on their narratives. This study was conducted with earthquake victims who left their cities and came to the province of Aydın after the earthquakes that occurred on February 06, 2023. It was decided to conduct the study there because one of the researchers was already working in the province where the study was conducted.

The purposive sampling technique of criterion sampling was employed in selecting participants for the study. The study population consisted of earthquake victims who were residing in one of the eleven districts affected by the earthquake in Kahramanmaraş, Turkey, and were forced to abandon their homes. The sample size was deemed sufficient based on the repetition of data observed during the interviews, rather than the size of the sample itself. Inclusion criteria for the study were being an earthquake victim affected by the Kahramanmaraş earthquake, having at least two members from the same family, being forced to abandon their homes, and agreeing to participate in the study. A total of 9 participants from 4 different families were included in the study, with roles within the families including father-daughter, elder-younger sibling, and husband-wife. Participants under the age of 18 were not included in the study due to their refusal or their parents. Furthermore, there was a potential for increased pain and distress when discussing the earthquake.

The personal information form consisted of seven questions on the earthquake victims' age, gender, education level, profession, and previous experience with earthquakes. The unstructured question form consisted of five questions that inquired about the difficulties experienced by the family members of the earthquake victims during and after the earthquake, the support they received, and the changes in their social and familial roles. This form was created after reviewing the literature and based on expert opinions [8-11].

The unstructured question form was comprised of two sections. The first section covered the pre-earthquake life dynamics, the concept of earthquakes, and the initial experiences. The second section focused on the losses, received support, difficulties experienced, and changes that occurred after the earthquake. To test the clarity of the questions, a pilot study was conducted with a participant, and the unclear statements were improved to put the questions in their final form.

The participants who met the inclusion criteria were informed about the interview, and the interviews were conducted at their residences at a convenient time. Each participant was interviewed one-on-one in a room of their residence. They were informed that their narrative would be recorded via a voice recorder, and their consent was obtained. The data were collected by a second researcher under the supervision of the other researchers. Notes were taken at each stage during the interviews, which lasted a total of 6 hours and 45 minutes.

While collecting data, analyses were conducted simultaneously. Based on the results obtained, subsequent interviews were structured. At the end of each interview, the recorded audio was transcribed into a Microsoft Word document without any alterations. A coding-based content analysis method was used in the data analysis. In the first stage of the analysis, the data in the text was divided into meaningful segments and summarized in the form of concepts. In the second stage, the concepts were classified. In the final stage, common points among the classified concepts were identified to create themes.

Ethical approval was obtained from the Scientific Research Ethics Committee of a foundation university for the conduct of the study, and the participants approved an Informed Consent Form. They were informed that they could drop out of the study at any stage as participation or withdrawal held no obligations, the data obtained would be used only for the study in question, and any information identifying them would not be revealed at any stage of the study. To preserve the anonymity of the participants, a code was assigned to each participant (F1, F2, M1, M2, etc.).

To ensure construct validity, the unstructured interview form was examined by three academics experienced in qualitative research. Based on their feedback and suggestions, the form was revised. To ensure internal validity, probing questions were asked during the interviews to examine the participants' genuine thoughts, and confirmation was obtained from the participants after each statement. To ensure external validity, detailed information was provided about the research process in the materials and methods section. To ensure external reliability, the Standards for Reporting Qualitative Research (SRQR) list was used during the data collection, analysis, and reporting phases [12, 13].

RESULTS AND DISCUSSION

All participants were aged 43-73 (53 ± 9.07). Of them, 56% were female, 34% were high school graduates, 67% were retired or civil servants, and 78% had been residing in Hatay before the earthquake. Furthermore, all participants reported having experienced earthquakes in the past (**Table 1**).

After analyzing the responses of earthquake-affected family members to the questions included in the unstructured questionnaire, two main themes and six sub-themes were identified (**Table 2**).

The findings specific to participants' pre-earthquake dynamics were determined to be family and social support

systems, the concept of the earthquake (how they define it), and experiences during the first moments of the earthquake.

Table 1. Personal characteristics of participants (n=9)

Code	Familial Role	Gender	Age	highest Degree Completed	Profession	City of Residence	Experience
M1	Father	M	73	High school	Retired civil servant	Hatay	Y
F1	Daughter	F	45	High school	Housewife	Hatay	Y
M2	Brother	M	58	High school	Retired civil servant	Kahramanmaras	Y
F2	Sister	F	49	Secondary school	Hairdresser	Kahramanmaras	Y
F3	Sister	F	52	Secondary school	Housewife	Kahramanmaras	Y
F4	Spouse	F	46	Master's	Civil servant	Hatay	Y
M3	Spouse	M	52	Master's	Retired	Hatay	Y
F5	Sister	F	43	Bachelor's	Civil servant	Hatay	Y
M4	Brother	M	55	Bachelor's	Civil servant	Hatay	Y

Y: Yes.

Table 2. Earthquake victims' views on the earthquake

Theme 1: Pre-earthquake dynamics	Theme 2: Post-earthquake experiences
Support systems Perspective on the concept of earthquake First moments of the earthquake	Losses Support received Post-earthquake situation Post-earthquake changes

The extent to which earthquake victims are affected by the events they experience is related to the presence of existing support systems. In this study, the participants (M1, M2, M3, M4, F2, F3 and F4) described their family dynamics and social support systems before the earthquake using expressions such as strong, positive, and powerful, while some also stated them to be complicated or balanced. *F5 (43 years old) stated: "Well, we are neither too distant from each other nor too close. We are close as much as we should be". M3 (52 years old) stated: "I believe that our family bonds are strong. Our communication within the family, especially with my sons, is strong. Our sharing is good. There is a relationship of love and respect between me and my spouse".* The way individuals perceive and conceptualize earthquakes may differ. One significant factor contributing to this difference is earthquake victims' existing family, friends, or social support systems. A study investigating the long-term effects of the Wenchuan earthquake that occurred in China in 2008 reported that earthquake victims had stronger bonds with their friends and relatives compared to their pre-earthquake lives [11]. In another study, earthquake victims with strong social support systems were found to be able to cope with the disaster shock more easily [14]. Of the participants of the present study, 77% described their pre-earthquake support systems as strong, indicating that they would be better able to overcome the negative effects of the earthquake.

All participants having experienced this phenomenon described the concept of the earthquake. They described the earthquake as a loud noise and shaking (M1, M2, and F1), terrifying (E1 and E4), an apocalypse (F1, F2, F3, and F5), a nightmare (M1, M4, and F2), and a known fact (M1, M3, F1, F4, and F5). *M1 (73 years old) stated: "Loud noise and shaking at the same time. A very loud noise and shaking...". M4 (55 years old) stated: "It was terrifying and a nightmare". F3 (52 years old) stated: "We went through an apocalypse". F4 (46 years old) stated: "It's a natural phenomenon. This is not a thought like 'it wouldn't happen if God didn't want it'. It should be based on science".* People can fall into serious chaos when their current lives are suddenly and unexpectedly changed or disrupted while going about their normal lives. After the earthquake that occurred on August 17, 1999, in Turkey, 82% of the interviewed earthquake victims described the earthquake as an apocalypse. In addition, they used the following words to describe the earthquake: shaking, noise, rumbling, and abnormal changes in the air [15]. The participants in this study also used similar expressions when describing the earthquake [16]. The sudden and serious change the earthquake caused in human life may have led earthquake victims to describe the earthquake using such expressions as apocalypse.

All participants in the study provided detailed accounts of the initial moments of the earthquake. Some of the statements are as follows: *M1 (73 years old): "Well, while the distress*

caused by this earthquake should gradually diminish day by day, it remains the same as if it stuck in your mind, it may resolve over time". M4 (55 years old): "People are there; our friends couldn't possibly survive that wreckage. After that moment, I got into my car feeling helpless and burst into tears". F1 (45 years old): "My parents were in a state of shock. I was more composed. It was just a physical earthquake for me". F3 (52 years old): "We were all screaming, and everything turned into dust in front of our eyes". F5 (43 years old): "Fragmented memories. The walls in the stairwell had collapsed onto the stairs. We had to crawl to get out, starting from the third floor. I fainted twice". In the initial moments of the earthquake, individuals may not know what to do or what to think. They may find themselves in a state of chaos. Earthquake survivors reported that during the initial moments of the earthquake, they felt that life had ended, they experienced fear and panic, and felt the need to reach out to other family members [15]. Earthquake survivors who recounted the initial moments of the 2015 Nepal earthquake reported feeling lost, bewildered, and not knowing what to do [16]. The experiences of earthquake survivors in this study, such as not being able to remember the incident, parents behaving as if they had lost themselves, and not fully recalling the event, are similar to findings in the literature. These experiences are thought to be related to the shock caused by the earthquake.

The following sub-themes emerged under the main theme of post-earthquake experiences: material and spiritual losses, assistance and support received after the earthquake, post-earthquake situation, and post-earthquake changes.

Among the participants, some expressed their material and spiritual losses (F1, F2, F3, M2, and M3). *M2 (58 years old): "I had three houses. Two of them had minor damage, and one was destroyed". M4 (55 years old): "I [pauses] lost nearly 30 cousins, first- and second-degree cousins".* It is undoubtedly true that disasters such as earthquakes cause colossal loss of life and property. Besides, many people lose their loved ones, and many earthquake survivors become homeless. The earthquake that happened in Turkey on August 17, 1999, resulted in the reported loss of nearly eighteen thousand lives, with around fifty thousand injured and approximately one hundred twenty thousand houses and workplaces damaged or destroyed [17]. The Kahramanmaraş earthquake, referred to as the disaster of the century, reportedly claimed the lives of forty-five thousand people and forced nearly two million survivors to abandon their homes [4]. The earthquake survivors participating in the study also reported losing their relatives from their families and social circles. Some participants also reported experiencing material losses. It is inevitable to encounter both material and spiritual losses after an earthquake.

The earthquake victims who participated in the study expressed that they did not receive support in the first days following the earthquake (M1, M2, M4, F1, F3, and F5). *F5 (43 years old) stated: "At first, aid trucks arrived very often,*

but my relatives outside the province provided the aid on the fourth day". M2 (58 years old) stated: "The first thing that came to us was a truck. It had oranges, mandarins, tomatoes, bananas, lettuce, and parsley". M4 (55 years old) stated: "I didn't receive any aid. We handled our affairs and used our means". The way to reduce the negative effects of the earthquake is only possible through survivors receiving support as soon as possible. The local people living in Sri Lanka and affected by the Tsunami disaster in 2004 reported that they had limited access to humanitarian aid and support [18]. In a study conducted with earthquake survivors in Lushan, China, in 2013, survivors expressed that it was not easy to access support points, they were ashamed to ask for help, and they felt neglected and forgotten [9]. The expressions of the participants in this study are also in line with the literature. It is believed that due to the challenges of the geography where earthquake victims were living and the fact that eleven provinces were affected simultaneously by the earthquake, it was difficult to deliver local, national, and international aid to the earthquake-affected areas following the Kahramanmaraş earthquake. Additionally, the harsh weather conditions may have also delayed the delivery of aid to the earthquake zone.

It was observed that the primary problem experienced by the earthquake victims after the Kahramanmaraş earthquake was related to their basic needs. All participants reported having difficulty or being unable to meet their basic needs. These basic needs include security (M1, M3, M4, F2, F4 and F5), food (F1, M1 and M4), hygiene, cleanliness, water (M1, F1, F2, F4 and F5), heating (F2, F3, F4, F5, M2 and M3), clothing (M1, F1, F2, M2, M3, F4 and F5), sleep (M1, M3 and F4), and privacy (F1 and M3). *F5 (43 years old) stated: "We had no clothes, no underwear, and no access to sanitary pads. It took almost a week to provide these things". F2 (49 years old) stated: "It was very difficult to go to the toilet. We were afraid in the dark. You could never go alone. In the end, we had to go into the bushes in the mountain." F4 (46 years old) stated: "There was a lot of rain. I took the buckets and basins from the canteen operator there. I collected water in the rain".* The first level of Maslow's Hierarchy of Needs consists of physiological needs, including the need for food, water, excretion, and sleep. The second level, is security needs, including security of body, employment, resources, family, health, and property [19]. All earthquake victims participating in this study reported that meeting physiological and security needs was the most important problem in the early period after the earthquake. In one study, earthquake victims reported a lack of basic needs such as shelter, clean water, heating, electricity, and interruption of communication [9].

After the earthquake, families went through many changes, most importantly being forced to leave their homes, which is the subject of this study. In addition, earthquake victims experienced changes in their family, friends, and social relationships. While some participants reported physical changes (F3, F4, and F5), all of them reported experiencing

psychological and social changes. *F5 (43 years old) stated: "I am scared and can't sleep". M4 (55 years old) stated: "We physically survived, thank goodness we didn't get trapped under the rubble, but our souls are trapped under the rubble".* After most disasters, those affected may search for a safer environment. Earthquake victims are forced to relocate or migrate, thus they have to abandon their homes [10]. Apart from material losses, those who leave their homes may experience disruptions in their social support systems, and communication and psychological problems [20]. A study conducted on young people affected by the Van Earthquake in Turkey found that those who experienced the earthquake and relocated for some time were more susceptible to psychiatric symptoms and post-traumatic stress disorder than those who did not experience the earthquake or relocate. The psychiatric symptoms observed in the study were somatization, depression, anxiety, obsession, and interpersonal sensitivity [10]. A similar study showed that there were both positive and negative changes in family relationships after the earthquake [8]. All of the participants in this study reported that they experienced psychological changes after the earthquake, which is consistent with other studies.

CONCLUSION

Undoubtedly, individuals and families are negatively affected by natural disasters such as earthquakes. Strong support systems before the earthquake can make earthquake victims more tolerant and can cause changes in their lives and perspectives. Basic needs that may not be noticed in daily life can become significantly important after the earthquake. Many earthquake victims may experience problems in their new residences after being forced to leave their homes.

While studies on earthquakes focus on late-term effects after the earthquake, this study is of significance in that it reveals the early effects of the earthquake. It is believed that individuals can be less affected by the negative effects of a disaster if they are prepared for a disaster at any moment if social support systems are strong, and if they have strong adaptation skills.

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