

Original Research

Cite this article: Çağlayan Keleş N (2024). Midwifery Experiences During Two Major Earthquakes in Türkiye: Challenges and Lessons Learned - A Qualitative Study. *Disaster Medicine and Public Health Preparedness*, 18, e248, 1–7
<https://doi.org/10.1017/dmp.2024.273>

Received: 21 September 2023

Revised: 20 July 2024

Accepted: 21 August 2024


Keywords:

disaster; earthquakes; health care; midwifery; midwifery experiences

Corresponding author:

Neriman Çağlayan Keleş;
Email: drnerimancaglayan@gmail.com

Midwifery Experiences During Two Major Earthquakes in Türkiye: Challenges and Lessons Learned - A Qualitative Study

Neriman Çağlayan Keleş 

Department of Midwifery, Hamidiye Faculty of Health Sciences, University of Health Sciences, Istanbul, Türkiye

Abstract

Objectives: This study aims to identify midwives' post-earthquake caregiving experiences.

Methods: A phenomenological study was undertaken in May–June 2023. The participants of the study consisted of 15 midwives who were included in the study with the purposeful sampling method and volunteered to provide care during the earthquake. Data were collected by an in-depth interview method using a demographic information form and a semi-structured interview form. Thematic analysis was conducted on interview transcripts.

Results: The research identified 2 main themes: difficulties in managing midwifery care and the psychological impact of the earthquake on midwives. Challenges included issues with disaster organization, management, and coordination; communication gaps; insufficient medical supplies; harsh environmental conditions; inability to fulfill basic needs; lack of disaster-related knowledge and experience among midwives; and the overall survival conditions of disaster victims. The disaster caused several psychological effects on midwives, including shock, surprise, sadness, confusion, feelings of inadequacy, insomnia upon returning from the disaster area, nightmares, difficulty adapting, guilt about returning, feelings of helplessness, and experiences of loss and mourning.

Conclusions: This study detailed midwives' experiences during disasters, difficulties, and barriers to effective care. It is crucial to record midwives' experiences during disasters and use this information and solutions to prepare for future disasters. Disaster preparedness training for midwives should be planned to increase physical and emotional resilience.

Türkiye ranks fourth in the list of destructive earthquakes that have occurred around the world since 1900. As a matter of fact, on February 6, 2023, 2 destructive earthquakes with magnitudes of 7.7 and 7.6 occurred in the southeastern region of Türkiye.¹ The Turkish government announced that it needed international assistance as a result of the earthquakes, which caused widespread destruction in 10 provinces. The World Health Organization (WHO) has declared a “Level 3 Emergency” due to the earthquake affecting 15 million people, which means that all WHO resources will be mobilized.¹ It is reported that 45,089 people lost their lives in these earthquakes.²

After earthquakes, the demand for health and treatment services increases. Health workers are involved in disaster recovery and medical care services. In the literature, the problems encountered by the medical teams sent to the earthquake area, the lack of disaster plans, and the deficiencies in earthquake preparedness before being sent to the earthquake area are mentioned.^{3–7} There are also studies that examine the experiences of volunteer health professionals. These studies present the feelings of health workers, their lack of training, the difficulties they face, and solutions during earthquakes.^{8–13}

During disasters, midwives take part in a first-response group together with other health professionals. Midwifery care is critical in caring for women and children, who are considered disadvantaged in disasters.¹⁴ However, there is no study in the literature regarding the experiences of midwives working during earthquakes. The aim of this study is to examine midwives' experiences, barriers and difficulties in providing care, and midwives' emotional states.

This study was planned to determine the post-earthquake caregiving experiences of volunteer midwives in Kahramanmaraş earthquakes, and the difficulties and obstacles faced by midwives. Two research questions guided this study:

1. What were the earthquake experiences of the volunteer midwives, the obstacles and difficulties in front of care?
2. How were the midwives emotionally affected before, during, and after the earthquake?

Methods

Research and Design

This study used a qualitative study design with a hermeneutic phenomenological approach developed by Cohen. The hermeneutic phenomenological approach is a synthesis of the descriptive phenomenology of Husserl and the interpretive phenomenology of Gadamer. This methodology is particularly well-suited to nursing research, particularly when the research topic is new, as it prioritizes the investigation of meaning and the lived experiences of the subjects.¹⁵ This approach was preferred due to its suitability to the nature of the phenomenon to be investigated. It will make it possible to explain in depth the experiences of midwives working in the earthquake zone, their emotional states, and how they interpret and convey the events.¹⁵

It was preferred to reveal the experiences of midwives working in the earthquake zone in a direct/realistic way. The Combined Criteria for Reporting Qualitative Research (COREQ) guidelines were followed in reporting this research.¹⁶

Research team and reflexivity

The researcher works as a lecturer in the midwifery department of a university. The researcher has expertise in children's and women's health and has worked as a nurse and nurse manager in hospitals in the past. The researcher is a 38-year-old female researcher. She has been trained in qualitative research. The researcher met the participants during the research and conducted all interviews herself.

Samples and settings

The data were collected through the purposive sampling method in May-June 2023. An individual invitation was sent to each participant. To ensure the heterogeneity of the participants, 15 midwives with different clinical backgrounds working in 5 different hospitals in Western Türkiye were included in the study. Two participants were unable to participate in the study due to their employment in the disaster area during the interviews and the subsequent difficulties they encountered in accessing the internet. The concept of "information power" was employed in determining the sample adequacy for this study. This approach emphasizes the importance of selecting a sample that is appropriate for the objectives of the study, specific to the research question, informed by theory, conducive to productive dialogue, and aligned with an appropriate analysis strategy.¹⁷

The study inclusion criteria were at least 3 months of midwifery experience and at least 1 week of working in the earthquake zone. The exclusion criterion was an unwillingness to participate in the study.

The study was conducted with midwives working in 10 cities in the south of Turkey that were affected by twin earthquakes. The regions were severely damaged. Rescue efforts lasted for days, and health care workers were sheltered in hospitals, some of which were destroyed, in the initial aftermath.

Data collection

Demographic information forms and semi-structured interview forms developed by the researchers based on the literature were used as data collection instruments.^{4-8,18} The data collection forms were evaluated by 2 peers in the field of qualitative research. A pilot study was conducted with 3 midwives to ascertain the intelligibility

of the questions. The forms were adapted in accordance with the recommendations. As the research progressed, the questions were developed to be more detailed as needed. All interviews were conducted individually, with the researcher arranging a convenient day and time for the participant. The researcher has sufficient training and experience in semi-structured interviews.¹⁹

To obtain detailed information, participants were asked the following questions: "Can you tell us about a day in the earthquake zone? When you evaluate your experience as a midwife in the earthquake zone, what were the factors that made it difficult to maintain? Could you elaborate on your experience?"

A total of 15 participants were interviewed based on availability and request. Five participants were interviewed face-to-face, and 10 participants were interviewed via video. The video interview method is the most like the face-to-face interview method. It allows individuals to participate in work independently of their location. To eliminate the limitations of video call techniques, connections, microphones, etc., it is necessary to pay attention to details. In this study, video interviews enabled participants to convey their experiences to the researcher while they were in the earthquake zone. The interviews were conducted in a quiet and ventilated environment.²⁰

The midwives who participated in the study were informed about the purpose and procedure of the study. Video interviews were conducted using Zoom and Microsoft Teams. Audio and video recordings were made with the permission of the participants. In addition, 3 follow-up interviews were conducted with participants to enrich the data. The average interview lasted 35 minutes. During the interviews, field notes were taken. Following the completion of the interviews, the transcripts were returned to the participants for their comments and corrections. The necessary corrections were implemented in accordance with the participants' feedback.²¹

Data analysis

The data were subjected to manual analysis using inductive thematic analysis. Thematic analysis is a method of identifying, analyzing, interpreting, and reporting patterns in data. The data analysis was conducted in parallel with the data collection. The 5 stages proposed by Graneheim and Lundman were employed in the content analysis. The 5 stages of the content analysis are as follows: (1) verbatim transcription of interviews, (2) extraction of primary codes, (3) classification of codes with similar meanings and assignment of appropriate labels, (4) creation of categories and subcategories, and (5) creation of themes that span categories.²²

The themes were simplified, and 2 themes were identified (Table 2). The participants were contacted again to obtain their opinions on the findings. The data were rechecked according to the participants' opinions. The obtained data were examined by an academician experienced in qualitative research, and the compatibility of the results was checked. In the last stage, the research report was written by adding the quotations of the participants to provide evidence for the themes.²¹

Rigor and reliability

In this study, scientific rigor was ensured by considering the principles of credibility, transferability, dependability, and confirmability.²³

To ensure the credibility of the study, the participants were asked to provide their approval, the cases subject to the research were discussed in detail, and the data were analyzed manually. The

findings of the present study were then compared with those of the previous study. A peer debriefing was conducted to facilitate discussion of the research process. The use of long-term interviews (3 in total) with the participants served to enhance the participants' confidence and facilitate the acquisition of more detailed information. As the research progressed, the research questions, raw data, preliminary findings, and interpretations were subjected to rigorous scrutiny and refinement. During the harmonization process, when contradictory findings were obtained in the data set, the data were clarified by conducting further interviews with the participants. The participants were permitted to review the data and interpretations. The necessary corrections were made in the comments based on the feedback.²⁴

To ensure the transferability of the findings, the sample selection, data collection environment, and process were explained in detail. The participant statements were included in the text and a relationship was established between the context of the research and the results.²⁴

To increase dependability, the raw data, all data collection tools, and consistency between coders, codes, and themes that emerged after the analysis were sent to an experienced academician who was not involved in the research. Improvements were made based on her evaluations.

To ensure confirmability, a variety of data collection methods were employed, and each coder's reflective comments were considered. Additionally, coders were permitted to code independently. All documents were archived for future reference.²⁴

Ethical considerations

The study was approved by the University Ethics Committee (date: 18.05.2023, decision number: 23/317). The midwives were informed about the purpose of the study, the confidentiality of the data, and that they could withdraw from the study at any time. Written and verbal informed consents were obtained from the

midwives. The study was conducted in accordance with the Declaration of Helsinki. In order to maintain anonymity, each participant was assigned a code.

Results

The study sample consisted of 15 midwives. Participants ranged in age from 23 to 51 years. Twelve of the participants had a bachelor's degree and 3 had a master's degree. Only 2 participants had training in earthquake preparedness. Three participants were members of non-governmental organizations. One of the participants worked in the earthquake zone for 1 week, one for 4 weeks, and the others for 2 weeks. Six of the participants worked in primary health care services, while the others worked in units within the hospital (Table 1).

During data analysis, 2 themes, 8 categories, and 27 subcategories were identified. Themes were identified such as difficulties in midwifery care and the emotional state caused by the earthquake on the midwives (Table 2).

Theme 1: Challenges to Midwifery Care

Under this overarching theme, 5 categories were identified. These include challenges in organizational management and coordination, shortages in human resources, inadequate availability of medical supplies, struggles in meeting fundamental human needs, and challenges pertaining to the conditions of disaster victims. These obstacles have compelled midwives to extend their services beyond their professional expertise and capabilities. Consequently, midwives have reported feelings of inadequacy, lack of experience, and excessive workload.

"Challenges in organization, management, and coordination" encapsulate the difficulties hindering midwifery care provision in earthquake-affected areas. These encompass communication issues, inadequate organizational management, and the chaos and

Table 1. Descriptive characteristics of midwives

Participant No:	Age	Education Status	Work Experience (years)	Earthquake training	Civil society membership	Duration of stay week	Worked Unit
K1	23	Bachelor's degree	3	Yes	Yes	2	Delivery room
K2	24	Bachelor's degree	1	No	No	2	Emergency pregnancy clinic
K3	29	Master's degree	6	No	No	2	Delivery room
K4	51	Bachelor's degree	32	No	No	2	Delivery room
K5	48	Bachelor's degree	25	Yes	Yes	4	Debris removal/ Delivery room
K6	26	Bachelor's degree	3	No	No	2	Primary health care services
K7	23	Bachelor's degree	11	No	Yes	2	Primary health care services
K8	27	Master's degree	6	No	No	1	Hospital
K9	23	Bachelor's degree	3	No	No	2	Primary health care services
K10	24	Bachelor's degree	3	No	No	2	primary health care services
K11	25	Bachelor's degree	3	No	No	2	Debris removal
K12	25	Bachelor's degree	3	No	No	2	Primary health care services
K13	32	Bachelor's degree	8	No	No	2	Hospital
K14	34	Master's degree	12	No	No	2	Hospital
K15	32	Bachelor's degree	12	No	No	2	Primary health care services

Table 2. Theme map

Theme	Category	Subcategory
1. Challenges in midwifery care	1. Organizational, managerial, and coordination challenges	1. Communication 2. Poor organizational management 3. Chaos, confusion, intensity
	2. Problems related to human resources	1. Failure to manage volunteers 2. Working outside the job description 3. Lack of training and experience of staff 4. Situation of disaster-affected health personnel 5. Difficulties in meeting the basic needs of midwives
	3. Lack of clinical materials	1. Lack of resources
	4. Challenges related to the situation of disaster survivors	1. Living in a tent city
2. Psychological impact of the earthquake on midwives	1. Emotions before going to the earthquake zone	1. The urge to help 2. A sense of mission 3. Volunteering
	2. Emotions experienced in the earthquake zone	1. Shock 2. Confusion 3. Feeling sad 4. Feeling bad 5. Not knowing what to expect
	3. Emotions after returning from the earthquake zone	1. Not wanting to leave the zone 2. Lack of adaptation 3. Feeling satisfied, happy 4. Psychological disorders

confusion prevailing in such situations. This category sheds light on the coping mechanisms adopted by midwives in response to these challenges. Participants expressed:

“We encountered the need to communicate with both the earthquake victims and the medical team. Amidst the chaos, some children were relocated to other hospitals. I attempted to reach out to at least 20 individuals (representing various units) to assist a woman in search of her child. This experience underscored the critical importance of possessing effective communication skills” K8

“The primary shortfall we faced was the absence of organized structures. There was a lack of clarity regarding the allocation of health care personnel and their respective assignments. Consequently, we took it upon ourselves to establish order. We autonomously formed our teams and commenced our work” K13

The category of “Issues concerning human resources” highlights the challenges faced by midwives in the earthquake zone. Participants noted an initial shortage of volunteers in the first few weeks, and although the numbers increased subsequently, effective assignment to appropriate units and management of volunteers remained problematic. Consequently, midwives found themselves undertaking tasks beyond their typical job descriptions in the earthquake zone, including providing social support, engaging in cleaning efforts, and participating in debris search and rescue operations.

While they embraced these responsibilities, they occasionally felt ill-prepared for such tasks.

“We faced shortages in doctors, midwives, and nurses. Volunteers only arrived a week after the earthquake. Until this shortfall was addressed, we carried out all duties without any distinction” K8

“Our goal was to offer social support and identify any potential service gaps” K6

Midwives expressed their lack of knowledge and experience in earthquake management. They emphasized the necessity of psychological preparedness for disaster situations.

“Volunteers should have more experience. They should also know how to care for injured people. Workers who had experience in emergency units were better at handling the situation because they had seen similar cases” K1

“I realized I didn’t know much. We also needed to learn how to handle emergencies. I also had trouble managing my own emotions. It would be helpful to prepare the people who were helping us psychologically” K11

Midwives’ ability to meet their basic needs varies depending on the disaster area they are assigned to and the time they go. In the first days of the earthquake, midwives had difficulty meeting their basic needs. This situation caused midwives to feel tired, exhausted and to have concentration problems.

“We spent the night in the hospital courtyard in overalls... Because almost all the buildings were heavily damaged. And it was snowing. “We couldn’t take a shower for 10 days. I didn’t feel tired in the first days, but I had concentration problems in the following days” K11

“I stacked the boxes to rest. We warmed up under the blanket we brought with us. We ate soup and rice every day. Also, in the first days, we could only take a rest break to meet our basic needs because there was no staff to whom we could delegate the task. Therefore, we started to feel exhausted in the following days” K8

Insufficient Medical Supplies

Participants reported that they experienced shortages of clinical supplies, which made it difficult to provide care.

“There were no supplies in the hospital... So no medicine, nothing. We had difficulty providing care” K14

“We couldn’t vaccinate anybody for 3 days because there was no tetanus. Problems such as lack of vaccination were disrupting care and services” K12

Some participants stated that they tried to solve the problem of lack of materials with the methods. They developed with their creativity.

“A 6-7 cm multipara (pregnant woman) came, we delivered her and the baby had respiratory distress. There was no hood device. I cut the 5-liter water bottle and attached a tube. I made a hood device. We were all motivated by being able to produce something instead of lacking materials.” K8

Ethical Challenges Related to Survivors’ Conditions

The midwives felt that the survivors living in the tent city had difficulties with care, hygiene, nutrition, and privacy. They tried to find solutions to these problems in their own ways. Participants talked about the ethical challenges as follows:

“We tried not to open the episiotomy as much as possible for women during childbirth. Because they could not pay attention to their care, hygiene and nutrition in tent conditions” K1

"The mothers had enough milk. But they preferred to use infant formula. The reason for this was the lack of privacy in the crowded tent environment. The information and guidance I provided regarding the significance of breast milk was unsuccessful" K7

Participants stated that there was a lack of materials (underwear, condoms, etc.) in the tent cities. Midwives felt responsible for filling the gaps in these areas and providing care.

"A pregnant woman living in a tent city had a urinary tract infection. Her doctor said, 'Be careful with your underwear and use of sanitary pads'. The woman said she didn't get to choose the underwear they gave her. In my opinion, midwives should also be part of the social welfare dimension" K12

Theme 2: The Emotional Impact of the Earthquake on Midwives

These were treated as the midwives' emotions before going to the earthquake area, the emotions experienced in the earthquake area, and the emotions experienced after leaving the earthquake area.

Participants stated that they went to the earthquake area voluntarily with a sense of duty and the urge to help.

"On the first day of the earthquake, a list of volunteers was made in our institution. I wanted to go, at least because we could provide social support" K4

Another challenge in providing midwifery care was the chaos and confusion caused by the lack of human resource planning.

"There were about 3 different names of cities before we were in the region. It was not clear which region we were going to, so it was chaos. When we reached the region, we were sad and confused about the delay and did not know what to do". K14

Midwives stated that they were affected by the physical conditions in the earthquake zone, the traumatic events they encountered, and the psychological state of the women they cared for, feeling shocked, confused, sad, and helpless. They felt that psychological support was essential in disaster care. However, they had received no training in psychological support.

"I was a bit shocked at first because it was worse than I expected. The psychological state of people and the fact that there are continuous after-shocks affects people" K6

"I was shocked. For example, there was a woman who was pulled out of the rubble. She had a C-section 1 week before the earthquake. But she thought she was pregnant...she lost her baby in the earthquake" K12

"I was told that a woman in the rubble was pregnant. She was able to reach the woman in 72 hours. I went into the tunnel to deliver the baby and communicate with the mother. Unfortunately, we couldn't help because we couldn't reach below the waist. (Silence) Mother and baby died. It was very sad for me" K11

Participants stated that health personnel worked in the field under difficult conditions until volunteers from other cities arrived.

"The survivors' health workers were on guard duty for 4 consecutive days. Some stayed in tents, some in the hospital. It was very sad. We tried to comfort them as much as we could" K4

Some of the participants stated that they did not want to leave the earthquake area and that they had developed an emotional attachment to the area. Some participants said they had difficulty adjusting, were psychologically affected, and had nightmares.

"When I came back, I wished we could stay for another week. I also formed an emotional bond with the people there" K1

"When I came back home, I had a hard time adjusting for the first 3 days" K13

"I wake up with a jump at 4:30 a.m. I have a very serious sleep problem and suffer from chronic fatigue" K8

Discussion

In this study, midwives' experiences in the Kahramanmaraş earthquake, the difficulties they encountered in maintaining care, and the psychological impact of working in the earthquake zone on midwives are discussed.

In this study, the Hope Model guided the exploration of midwives' care experiences. This model offers insights into the content and context of disaster nursing, particularly during the intervention phase of sudden disasters. According to the Hope Model, disasters impact midwives across personal, professional, and environmental dimensions. Throughout the disaster process, midwives undergo 4 main processes: confronting the reality of the situation, adapting to conditions, providing aid, relief, and care, and eventually recovering from the experience.²⁵

The research also revealed that organizational deficiencies, miscommunication, and chaos resulted in maintenance not being delivered to the area on time. Similarly, it was reported that the main problems in the 2012 Azerbaijan earthquake were organizational deficiencies,²⁶ and in the China Xiuan earthquake there was a lack of coordination between disaster relief teams.⁵ During the Iran earthquake, Abdi et al. noted that it was difficult to transport medical personnel to the earthquake area.¹⁸ Based on the literature and the findings of this study, it can be said that earthquake preparedness and inter-institutional communication development is a necessity.

Like the literature,^{3,27} in the study, the main difficulties in care were the inability to assign staff to appropriate units and the lack of experience/knowledge of volunteers. During the Bam earthquake²⁸ and the twin earthquakes in Iran,²⁹ although there were sufficient personnel in the region, the health authorities were not aware of this situation. Experiences and information should be recorded and used in disaster preparedness and response training. Thus, health care personnel can be prepared when similar situations arise.²⁹

In research and literature,^{9,26,30} it is stated that health care workers were not supported emotionally, psychologically, and financially despite their critical and valuable role in the earthquake. Health professional associations should work to provide protection and support to health care personnel and their families during disasters. In this way, health professionals can provide more effective services without worrying about their families.¹⁸

In disaster environments, there may be difficulties in accessing basic human needs. Similar deficiencies in accommodation, nutrition, and hygiene were identified in the study and the literature.¹⁸ In disaster relief, medical personnel must have resilience and adaptability. The physical and mental health of the personnel to be sent to the disaster support unit should be evaluated. Psychological support that will increase resilience for health care personnel should be provided both with training before the disaster and through psychological counseling after the disaster.

The most common challenge in responding to disasters is lack of resources.^{10,29} Lack of materials and equipment was one of the main difficulties in this study and also in the literature.²⁹ Midwives tried to overcome these problems with the methods they developed. In

disaster education, it should be discussed how to find a solution to the lack of materials, using the examples presented in research.

The trauma experienced by the victims and the tent city conditions negatively affected the midwives psychologically. Disasters and emergencies raise ethical challenges and moral issues.¹⁰ Some of the participants talked about the moral difficulties of deciding whether to perform an episiotomy. These moral challenges are similar to those experienced by health care professionals caring for patients in the literature.^{7,11} In one study, it was emphasized that nurses experienced difficulties in providing care while their safety was at risk,¹⁸ and in another study, it was emphasized that difficulties were experienced due to a serious lack of resources. Ethical preparations of health care professionals should not be neglected, and necessary training should be planned.⁹

Another category was the emotional difficulties the earthquake created for midwives. Health care workers are known to develop symptoms of PTSD after disasters. Disaster response teams need stress management training and psychological support.¹⁰

Midwives need to adapt their personal and professional knowledge in order to provide care in crisis situations such as disasters that they have not encountered before. Among the issues that midwives frequently encounter are first aid, triage, facility and team preparation, unit coordination, structure of disaster organizations, disaster policies, rescue operations, and management of infectious diseases. Additionally, midwives need training in leadership skills, various roles undertaken in disasters, working in multicultural environments, serving as role models, providing psychological support, and developing psychological resilience.²⁵

Psychological resilience is defined as individuals' capacity to adapt healthily to traumatic life experiences. This capacity is believed to be influenced by personality traits, social support resources, financial and educational factors, coping and emotional regulation skills, and expressions of positive emotions. However, it is noted that these factors are not always effective in every situation or their effectiveness may be limited. Within the concept of resilience, it is believed that an effective mechanism is flexible self-regulation. When under stress, individuals typically ask themselves the following questions: "What is happening?", "What can I do about it?", "Feedback," and then inquire whether it is working. Strategies are then either sustained or discontinued.³¹

Research examining resilience interventions for health care workers reports that educational interventions are effective in enhancing resilience, although the level of evidence is low. Given that resilience is influenced by multiple factors, it is recommended that new studies be planned with this consideration in mind.³²

Effective training programs should be organized to facilitate midwives in adapting to changing conditions with flexible, solution-oriented, and improvisational approaches, and to enhance their psychological resilience. For this purpose, disaster training programs prepared with the contributions of various disciplines such as mental health and emergency aid experts can be included in the undergraduate curriculum. Continuity of training can be ensured after graduation through teaching methods such as critical thinking, simulation applications, and drills.²⁵

Limitations

Data collection for this study began within 3 months of the earthquake. This allowed participants to report their experiences objectively. Although rich data were obtained in this study, the data of the study are limited to the experiences of midwives who went to the

earthquake zones from Istanbul. Midwives who go for support from different regions of Turkey may have different and instructive experiences.

The research examines midwives' experiences of earthquakes over an extended period, encompassing rescue, assistance, care, treatment, and rehabilitation. The study's design is significant in that it aims to portray midwives' experiences across different periods and illustrate changes over time. However, the analysis and interpretation of large data sets collected over an extended period presents methodological limitations.

Conclusions

This study reflects the experiences and emotional challenges of midwives in disaster areas. The development of effective and continuous disaster training programs based on these experiences will prepare midwives for future disasters. In order to adequately prepare midwives for disasters, it is essential to integrate comprehensive disaster education into the undergraduate curriculum, maintain knowledge currency through continuous education, and enhance practical skills through drills and simulation exercises.

Acknowledgements. Thank you to the midwives who supported us in this study.

Author contribution. Conceptualization, Data curation, Formal Analysis, Methodology, Project administration, Investigation, Visualization, Writing

Funding. The author received no financial support for the research, authorship, and/or publication of this article.

Competing interest. The author declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

References

1. **Sosyoekonomik boyutuyla Türkiye'de depremler üzerine bir inceleme: Kahramanmaraş depremi örneği.** *G Aydınbaş. Sosyal bilimlere çok yönlü yaklaşımlar: Tarih, turizm, eğitim, ekonomi*, 2023. doi:10.58830/ozgur.pub98
2. **AFAD.** Kahramanmaraşta meydana gelen depremler hk. Basın bülteni. 2023. <https://www.afad.gov.tr/kahramanmaraşta-meydana-gelen-depremler-hk-36> (accessed may 5, 2023).
3. **Li Y, Li S, Chen S, et al.** Disaster nursing experiences of Chinese nurses responding to the Sichuan Ya'an earthquake. *Int Nurs Rev.* 2016;**64**(2): 309–317. doi:10.1111/inr.12316
4. **Nasrabadi AN, Naji H, Mirzabeigi G, et al.** Earthquake relief: Iranian nurses' responses in Bam, 2003, and lessons learned. *Int Nurs Rev.* 2007;**54**(1):13–18. doi:10.1111/j.1466-7657.2007.00495.x
5. **Sato M, Atogami F, Nakamura Y, et al.** Remote community-based public health nursing during a disaster: an ethnographic case study in Japan. *Australas Emerg Nurs J.* 2014;**17**(3):106–111. doi:10.1016/j.aenj.2014.04.001
6. **Shih FJ, Liao YC, Chan SM, et al.** Taiwanese nurses' most unforgettable rescue experiences in the disaster area after the 9-21 earthquake in Taiwan. *Int J Nurs Stud.* 2002;**39**(2):195–206. doi:10.1016/S0020-7489(01)00014-1
7. **Yang YN, Xiao LD, Cheng HY, et al.** Chinese nurses' experience in the Wenchuan earthquake relief. *Int Nurs Rev.* 2010;**57**(2):217–23. doi:10.1111/j.1466-7657.2009.00795.x. PMID: 20579157.
8. **Sloand E, HoG. Kub.** Experiences of nurse volunteers in Haiti after the 2010 earthquake. *Res Theory Nurs Pract.* 2013;**27**(3):193–213. doi:10.1891/1541-6577.27.3.193
9. **Pourvakhshoori N, Norouzi K, Ahmadi F, et al.** Nurse in limbo: a qualitative study of nursing in disasters in Iranian context. *PLoS One.* 2017;**12**(7). doi:10.1371/journal.pone.0181314

10. **Wenji Z, Turale S, Stone TE**, et al. Chinese nurses' relief experiences following two earthquakes: implications for disaster education and policy development. *Nurse Educ Pract*. 2015;15(1):75–81. doi:10.1016/j.nepr.2014.06.011
11. **Moradi K, Abdi A, Valiee S**, et al. Nurses' experience of providing ethical care following an earthquake: a phenomenological study. *Nurs Ethics*. 2020;27(4):911–923. doi:10.1177/0969733020907952
12. **Rezaei S, Abdi A, Akbari F**, et al. Nurses' professional competences in providing care to the injured in earthquake: a qualitative study. *J Educ Health Promot*. 2020;9(1). doi:10.4103/JEHP.JEHP_214_20
13. **Nekooei Moghaddam M, Saeed S, Khanjani N**, et al. Nurses' requirements for relief and casualty support in disasters: a qualitative study. *Nurs Midwifery Stud*. 2014;3(1). doi:10.17795/NMSJOURNAL9939
14. **Hays KE, Prepas R**. (2015). The professionalization of international disaster response: it is time for midwives to get ready. *J Midwifery Womens Health*. 2015;60(4):348–359. doi:10.1111/jmwh.12339
15. **Cohen M, Kahn D, Steeves R**. Hermeneutic Phenomenological Research: A Practical Guide for Nurse Researchers. *Published online May 15*, 2012. doi:10.4135/9781452232768
16. **Tong, A, Sainsbury, P, Craig, J**. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *Int J Qual Health Care*. 2007;19(6):349–357. <https://doi.org/10.1093/intqhc/mzm042>
17. **Malterud K, Siersma VD, Guassora AD**. Sample size in qualitative interview studies. *Qual Health Res*. 2016;26(13):1753–1760. doi:10.1177/1049732315617444
18. **Abdi A, Vaisi-Raygani A, Najafi B**, et al. Reflecting on the challenges encountered by nurses at the great Kermanshah earthquake: a qualitative study. *BMC Nurs*. 2021;20(1):90. doi:10.1186/s12912-021-00605-3
19. **Bradshaw C, Atkinson S, Doody O**. Employing a qualitative description approach in health care research. *Glob Qual Nurs Res*. 2017;4. doi:10.1177/2333393617742282
20. **Saarijärvi M, Bratt EL**. When face-to-face interviews are not possible: tips and tricks for video, telephone, online chat, and email interviews in qualitative research. *Eur J Cardiovasc Nurs*. 2021;20(4):392–396. doi:10.1093/eurjcn/zvab038
21. **Lindgren BM, Lundman B, Graneheim UH**. Abstraction and interpretation during the qualitative content analysis process. *Int J Nurs Stud*. 2020;108:103632.
22. **Braun V, Clarke V**. Using thematic analysis in psychology. *Qual Res Psychol*. 2006;3(2):77–101. doi:10.1191/1478088706qp063oa
23. **Baltacı, A**. Nitel araştırma süreci: Nitel bir araştırma nasıl yapılır? *AEÜSBED*. 2019;5(2):368–388. doi:10.31592/aeusbed.598299
24. **Yadav D**. Criteria for good qualitative research: a comprehensive review. *Asia-Pac Educ Res*. 2022;31(6):679–689. doi:10.1007/S40299-021-00619-0/TABLES/8
25. **Hugelius K, Adolfsson A**. The HOPE model for disaster nursing. *Prehosp Disaster Med*. 2019;34(s1):s135–s135. doi:10.1017/S1049023X19002966
26. **Pouraghaei M, Jannati A, Moharamzadeh P**, et al. Challenges of hospital response to the twin earthquakes of August 21, 2012, in East Azerbaijan, Iran. *Disaster Med Public Health Prep*. 2017;11(4):422–430. doi:10.1017/DMP.2016.153
27. **Geisz-Everson MA, Dodd-McCue D, Bennett M**. Shared experiences of CRNAs who were on duty in New Orleans during Hurricane Katrina. *AANA J*. 2012;80(3):205–212.
28. **Saghafinia M, Araghizade H, Nafissi N**, et al. Treatment management in disaster: a review of the Bam earthquake experience. *Prehosp Disaster Med*. 2007;22(6):517–521. doi:10.1017/S1049023X00005355
29. **Pouraghaei M, Babaie J, Saeed LR**. Challenges of emergency medical services response to Arasbaran Twin Earthquakes; a content analysis. *Arch Acad Emerg Med*. 2022;10(1). doi:10.22037/AAEM.V10I1.1571
30. **Doyle L, McCabe C, Keogh B**, et al. An overview of the qualitative descriptive design within nursing research. *J Res Nurs*. 2020;25(5):443–455. doi:10.1177/1744987119880234
31. **Bonanno GA**. The resilience paradox. *Eur J Psychotraumatol*. 2021;12(1):1942642. doi:10.1080/20008198.2021.1942642
32. **Kunzler AM, Helmreich I, Chmitorz A**, et al. Psychological interventions to foster resilience in health care professionals. *Cochrane Database Syst Rev*. 2020;7(7):CD012527. Published 2020 Jul 5. doi:10.1002/14651858.CD012527.pub2