

Zeynep Arabacı¹, Gülşen Ulaş Karahmetoğlu²

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Abstract

Objective: Disasters occur unexpectedly and lead to various problems. Nurses are among the professions playing an important role in disaster management. This study was designed to investigate final-year undergraduate nursing students' approaches to maternal and child health in emergency situations through focus group discussions and to assess their preparedness.

Methods: The present study has a phenomenological approach design, which is a qualitative research method. Consolidated Criteria for Reporting Qualitative Research was used as a checklist in our study. Focus group discussions were conducted with 4-5 students in 5 groups specifically formed for emergency situations, and data were collected from 21 senior nursing students. Data for the planned qualitative study were collected through focus group discussions.

Results: Students identified risks in disasters such as hygiene, nutrition, infectious diseases, depression, bleeding, infection, premature birth, lung capacity, eclampsia, preeclampsia, and hypothermia. They emphasized breastfeeding, waste management, vaccinations, hygiene, and environmental health as protective factors. When asked to define interventions and protocols for disaster preparedness, they mentioned the theme of "hands-on training."

Conclusions: Students gained knowledge and awareness regarding what needs to be done for mothers and children in emergency situations. They emphasized the importance of hands-on training in this regard.

Keywords: maternal health; child health; nursing

Özet

Amaç: Afetler beklenmedik bir şekilde meydana gelir ve çeşitli sorunlara yol açar. Hemşireler, afet yönetiminde önemli rol oynayan mesleklerden biridir. Bu çalışma, odak grup tartışmaları yoluyla son sınıf lisans hemşirelik öğrencilerinin acil durumlarda anne ve çocuk sağlığına yaklaşımlarını araştırmak ve hazırlıklarının değerlendirmek için tasarlanmıştır.

Yöntemler: Mevcut çalışma, nitel bir araştırma yöntemi olan fenomenolojik bir yaklaşım tasarımına sahiptir. Çalışmamızda Nitel Araştırma Raporlama için Birleştirilmiş Kriterler bir kontrol listesi olarak kullanılmıştır. Odak grup tartışmaları, acil durumlar için özel olarak oluşturulmuş 5 grupta 4-5 öğrenciyle yürütülmüş ve 21 son sınıf hemşirelik öğrencisinden veri toplanmıştır. Planlanan nitel çalışma için veriler odak grup tartışmaları yoluyla toplanmıştır.

Bulgular: Öğrenciler, hijyen, beslenme, bulaşıcı hastalıklar, depresyon, kanama, enfeksiyon, erken doğum, akciğer kapasitesi, eklampsi, preeklampsi ve hipotermi gibi afetlerdeki riskleri belirlemiştir. Koruyucu faktörler olarak emzirme, atık yönetimi, aşılama, hijyen ve çevre sağlığını vurgulamışlardır. Afetlere hazırlık için müdahaleleri ve protokolleri tanımlamaları istendiğinde, "uygulamalı eğitim" temasından bahsetmişlerdir.

Sonuç: Öğrenciler, acil durumlarda anneler ve çocuklar için ne yapılması gerektiği konusunda bilgi ve farkındalık kazandılar. Bu konuda uygulamalı eğitimin önemini vurguladılar.

Anahtar Sözcükler: anne sağlığı; çocuk sağlığı; hemşirelik

¹ PhD., RN. Kastamonu University Faculty of Health Sciences, Kastamonu, Turkey (Orcid no: 0000-0003-2273-6812)

² PhD., RN. Assistant Professor, Kastamonu University Faculty of Health Sciences, Kastamonu, Turkey (Orcid no: 0000-0002-3792-4579)

1. Introduction

Disasters and emergency situations are defined as natural, technological, or human-induced events that affect part or all of a society, disrupt or halt daily life, and necessitate immediate intervention, as well as the crisis situations that arise from these events. Natural disasters often occur unpredictably and unexpectedly. Disasters cause various public health problems such as infectious diseases, increased injuries, mental health issues, and disruption of healthcare services. Pregnant women, newborns, infants, and children constitute a vulnerable group in cases of natural disasters. It can be seen that natural disasters increase the risk of miscarriages and premature births and significantly impact fetal health (1-5). Furthermore, obstetric complications develop in 15% of pregnant women. More than half (53%) of the deaths of children under five during disasters are preventable. Even though significant improvements have been accomplished in maternal and child health programs in recent years, the desired outcomes have not been achieved during disasters. Emergency interventions are often slow, especially in low-income countries (6). Past natural disasters were observed to have negative effects on mothers and infants during and after pregnancy. It was noted that physical and mental problems in infants persisted for years (7). In a study carried out by Ergin et al., it was emphasized that regular postnatal follow-ups and childbirths given under healthy conditions reduce maternal and perinatal infant deaths (8). Childcare is very important for postpartum mothers in the first year after childbirth, with a high need for physical and emotional support (9). The United Nations Population Fund reported that, the February 6 earthquake that affected Turkey among earthquake survivors, there are 226,000 pregnant women urgently in need of reproductive health services (10). Nurses are the frontline workforce in disaster situations and play a significant role in care. A previous study examining the competence of nursing students in disaster response revealed their preparedness to be inadequate and their readiness for disasters to be insufficient (11). A study on the disaster nursing competence of intensive care nurses in Jinan, China, indicated that participants had a moderate level of disaster nursing competence (12).

Objective

This study was planned to focus on the approaches of final year undergraduate nursing students to maternal and child health in emergency situations through a focus group discussion and to assess their readiness.

2. Method

2.1. Study Design

The common goal in all disciplines serving humanity is to understand human behaviors within their environments and in a multidimensional manner. Human behaviors can only be explored with a flexible and holistic approach and the perspectives and experiences of individuals involved in the research are very important (13). From this point of view, qualitative research can serve as an important instrument to understand the thoughts and feelings of participants in multiple dimensions. Therefore, the phenomenological approach pattern, which is one of the qualitative research methods, was used in this study. Consolidated Criteria for Reporting Qualitative Research (COREQ) was used as a checklist in our study.

2.2. Participants

The present study was carried out as qualitative research. The universe of this study consisted of 4th-year nursing students (n=90) of a public university's Faculty of Health Sciences. The study group was determined by using criterion sampling, which is a purposive sampling method, among 4th-year nursing students of the Faculty of Health Sciences who agreed to participate in this study. Since the present study was planned with a qualitative design, generalization of the obtained data to the population is not expected. Therefore, even though there is no predetermined rule for determining the sample size in qualitative studies, data were collected through semi-structured interviews and focus group discussions. Focus group discussions were conducted with 5 groups consisting of 4-5 students each, formed specifically for emergency circumstances, and data were collected from 21 final-year nursing students (14).

2.3. Intervention

Five groups were established considering the following questions. The groups conducted activities and events in these areas. Each group conducted at least one activity and shared it

| Subjects | Implementations and contents |
|--|---|
| <ul style="list-style-type: none"> • What can and should nurses do for maternal and child health after an earthquake • What can and should nurses do for maternal and child health during and after a pandemic? • What can and should nurses do for maternal and child health after a flood? • What can and should nurses do for maternal and child health after snowstorms, blizzards, and freezing conditions? • What can and should nurses do for maternal and child health during and after wars? | <ul style="list-style-type: none"> • Antenatal care (identification and treatment of potential maternal illnesses, such as anemia, eclampsia, pre-eclampsia, tetanus vaccination and immunization, assessment of the fetus, and birth planning) • Delivery services (ensuring the mother delivers in a safe environment, assessing fetal health) • Postpartum care (mother’s rest, nutrition, postpartum monitoring, newborn monitoring, breastfeeding, evaluation of congenital defects, monitoring mother and baby for infections) • Child-focused practices (promotion of breastfeeding, newborn care, immunization of infants, protection against infectious diseases, monitoring growth and development of children aged 0-6 years) <ul style="list-style-type: none"> ➤ Transferring the above topics to students through demonstrations, case presentations, role-playing, and lectures, among other methods |

with other students. The activities lasted for 5 weeks, and at the end of the 5 weeks, focus group discussions were held with the groups. The activities and events conducted over the five weeks are presented in Table 1.

2.4. Data collection and analysis

Researchers used a personal information form and an interview form prepared by the researchers for data collection. The Personal Information Form contains questions aiming to identify the sociodemographic characteristics of the individuals participating in this study, such as age, gender, and marital status. The interview form includes alternative questions prepared considering the literature (15-17) and the care process. Content evaluation was conducted by obtaining expert opinions on the questions included in the interview form. Following the expert opinion, a pilot application of the form was conducted with three individuals outside the sample group.

Data collection was conducted through face-to-face focus group interviews. Students were interviewed face-to-face, and audio recordings were made during the interviews. Thematic and content analysis methods were used to analyze the data. Nvivo 14 demo statistical software was used for analysis. Participants were informed that the interviews would remain confidential, and the

interview records would not be used outside the scope of this study. During the interview, non-verbal cues were used to indicate active listening, and participants were not encouraged to provide yes-no type answers; silence was allowed when necessary. After the interview, participants were asked how they would like to communicate with the researchers if they wished to and they were not judged. Verbal and written consent was obtained from the volunteers participating in the research for the audio recording of the interviews. The interviews were conducted in a designated interview room at the participants’ school by the researchers.

2.5. Ethical Approach

Voluntary individuals who agreed to participate in the study were recruited. Written permission was obtained from the Deanery of the Faculty of Health Sciences and ethical approval was obtained from the University’s Clinical Research Ethics Committee (2023-120) to conduct the research.

3. Results

A total of 21 students (16 females and 5 males) participated in this study. All students were single. The mean age of the students was found to be 22.4 years. Examining the emergency situation experiences of the students, it was found that 10 students have not experienced any emergency

situations, 8 students experienced the earthquake of 6 February 2023, 2 students experienced the Van earthquake on 23 October 2011, and one student experienced a major fire. The present study consists of themes such as the risks that pregnant women, postpartum women, and children may encounter in emergencies and the protective factors addressing these risks, as well as interventions and protocols for disaster preparedness and the gains students derive from this study experience.

3.1. Risks Pregnant and Postpartum Women and Children May Encounter in Emergency Situations and Protective Factors

When asked to define “the risks that pregnant and postpartum women, and children may encounter in emergencies and the protective factors” during focus group discussions, the students stated:

“The greatest risks are definitely hygiene and nutrition. These are the main issues. Access to clean food is not always at a sufficient level. Also, living in communal areas or tents and similar places poses a major hygiene problem. The biggest problem is for the baby because the mother has a developed immune defense. So even if there is a problem, the mother can tolerate it to some extent” (G1).

“Anemia, premature birth, eclampsia, preeclampsia, hypothermia, increased risk of infectious diseases, and communal living spaces can increase infectious diseases. Infections, wound infections, contamination, food poisoning due to contaminated food, depression, postpartum depression” (G2).

“Infection and bleeding can occur. They are at high risk in terms of infectious diseases. From a depressive perspective, they may be more prone to depression. For example, we had worked on pandemics here; during this pandemic, pregnant women are at risk of lung infections because their abdomen enlarges and lung capacity is restricted. Wearing masks during this pandemic makes them more prone to lung infections. So, we need to pay more attention to pregnant women” (G3).

“In the topics we worked on, we actually saw that mothers and babies are at risk in emergencies, safe spaces are important for

them, especially hygiene is very important for mothers and children” (G4).

“As you know, during childbirth, premature birth can be very risky for women. They are at risk of infections, infectious diseases both the mother and children” (G5).

Students identify risks such as hygiene, nutrition, infectious diseases, depression, bleeding, infection, premature birth, lung capacity, eclampsia, preeclampsia, hypothermia.

“Considering the protective factors, breastfeeding is important for the baby’s protection. Mothers should be informed about them because they may not be able to prepare formula under these conditions. For example, there is this misconception among people that in such situations, during disasters, it is recommended not to breastfeed the baby or to switch to ready-to-use formula. But in every situation, breastfeeding should be continued because the mother’s milk continues to come” (G1).

“Pregnant women should be identified, suitable environment, cleanliness, waste control should be done, and nurses can coordinate. Providing appropriate temperature, pregnancy nutrition education, psychosocial education supports this process. Mother-baby contact, breastfeeding especially for the postpartum period, ensuring childbirth in a clean environment. Containers like hospitals, for example, are being used. Our friend had given an example in our presentation. We can create a breastfeeding area. Breastfeeding areas can be created in the back of a car or in containers” (G2).

“There are also difficulties in breastfeeding. The bond between the mother and the baby is not established. Therefore, supporting breastfeeding is important” (G3).

“Hygiene education is necessary for the mother. Hygiene is definitely important for nurses as well. Asbestos and similar products can come out in rubble. So, it is more important for us to educate them, to inform them, although I don’t know how much can be done in those conditions” (G4).

“Of course, hygiene education is very important. Vaccinations are important for newborns. Environmental health is important” (G5).

Students emphasize breastfeeding, waste control, vaccinations, hygiene, and environmental health as protective factors.

3.2. Interventions and protocols for disaster preparedness

When asked to define “interventions and protocols for disaster preparedness” in focus group discussions with students, it was determined that they significantly emphasized “hands-on training”.

“Hands-on training should be provided in universities, specifically in these areas. Coordination is very important. Health education is very important; practical training should be given to workers, such as nurses, with specific course content. Specialization in these areas is important” (G1).

“Sometimes meteorology notifies us, and if we receive this information, it’s quite important for healthcare workers to plan. Roads may be closed, preventing both our access and theirs. It seems that handling this beforehand is probably one of the best preventive methods. Especially for serious areas, it needs to be monitored. In disaster situations, women, children, and vulnerable groups are among the ones affected the most. It seems important for nurses to be psychologically prepared for this process; learning about disaster policies and hospital policies is important” (G2).

“In terms of adapting to these processes both mentally and, I think, in terms of knowledge and competency, applied training should be provided to us and this training should be continuous. It could be provided from elementary school onwards. You know, like how we used to have traffic lessons, something like that, about disaster management, search and rescue, first aid, how to behave in disasters” (G3).

“There should be emergency kits and shelters; it seems like Türkiye is not very sufficient in this regard. Türkiye should be active in terms of feasibility” (G4).

“In the case of a flood, helicopters can be called for postpartum and pregnant women. Usually, when emergency situations are mentioned, earthquakes are discussed, but floods are also important. In this situation, mothers and children are important” (G5).

3.3. Challenges Encountered in Group Activities on Emergency Situations

When asked to describe the challenges encountered in group activities on emergency situations in focus group discussions with students, it is particularly evident that emphasis on “lack of literature and insufficient research on these topics” is important.

“Well, searching on Google Scholar or similar platforms, there are few articles, not enough research. These areas need to be studied” (G1).

“It seems a bit lacking; there’s not much in the literature on this topic. Even in the Ministry of Health, it felt limited, I couldn’t find detailed information; it needs to be studied” (G2).

“For example, since Covid is very current, studies are still ongoing. It’s a very recent process and studies are still ongoing. There were a lot of things that hadn’t been confirmed, issues. So, we struggled to find evidence-based sources” (G3).

“Well, we couldn’t find sources. If someone were curious and searched for sources, they wouldn’t find any information” (G4).

“Finding sources really was challenging” (G5).

3.4. Gains from Group Activities on Emergency Situations

When asked to describe the gains from group activities on emergency situations in focus group discussions with students, it is particularly evident that emphasis on “shortcomings, empathy, the difficulties of the disaster process, psychological resilience,” and similar aspects is important.

“At least we realized our shortcomings. I asked myself, am I professionally prepared for such a situation? I learned what I could do about it. I saw what the needs of the people could be in such situations. I learned to empathize with people. Today, if I were to experience the same situation again, maybe I knew it was good and right to give breast milk to the baby

during such a period, but at least with full information, I strongly recommend it, and this was a gain for me” (G1).

“Intervention during a disaster is a challenging process; I saw that pregnant women and children are important and sensitive, and I can better meet their needs and learned what these needs could be: breast milk, clean food, clean water” (G2).

“So, nursing should be managed not only in a normal process but also in a disaster process, and we really didn’t know what we should do in that process, and we are fourth-year students; it’s very painful” (G3).

“I saw that it is necessary to achieve psychological resilience within ourselves, to realize that process called psychological resilience during this study process” (G4).

“In a disaster situation, I saw that the field is actually different. We understood that we need a lot of information. We realized more clearly that pregnant women and children are sensitive groups in these situations and need a clean environment” (G5).

4. Discussion

The present study was carried out to focus on senior nursing students’ approaches to maternal and child health in emergency situations, and to evaluate their readiness through a focus group discussion.

Disasters that occur unexpectedly and have extremely destructive effects directly impact societies. They particularly pose potential risks for significant health issues in mothers and infants (18,19). In the present study, students identified these risks as inadequate hygiene and nutrition for the mother/infant, preterm birth, pregnancy-related issues, infectious diseases, and depression. Addressing these issues that affect quality of life and survival after disasters requires regular monitoring and care for the mother and baby, as well as controlling environmental risks (20). This study revealed that students emphasize breastfeeding, waste management, vaccinations, hygiene, and environmental health as protective factors. However, in disaster areas, hygienic conditions are significantly disrupted, and preventive health services are interrupted.

It is thought that if necessary measures are not taken for the adverse environmental conditions and environmental health services are not provided, and if sufficient importance is not given to health care for the mother/baby, the problems and losses that occur during/after disasters could increase (20). Moreover, breastfeeding, which is very important for infant and maternal health, is the safest way to prevent infants from getting sick during natural disasters. However, difficulties such as lack of privacy for breastfeeding/ expressing breast milk, inability to create breastfeeding environments, insufficient support for breastfeeding, and separation of the mother, family members, and baby are experienced during disasters (21).

It is a well-known fact worldwide that nurses play a significant role in disaster response. Since the need for health services increases after natural disasters, it is very important for professional nurses to actively participate in disaster relief efforts. Therefore, it is necessary to provide nursing students, who will be the future health professionals, with courses to prepare them for natural disasters (22). The results achieved in this study indicate that students emphasize the importance of hands-on training in interventions and protocols for disaster preparedness. Nursing students need basic education, knowledge, and skills, as well as critical thinking/problem-solving abilities, and they also need knowledge in disaster nursing to be able to provide the best service in disasters. In a previous study, it was reported that nursing students observed physical and psychological health, improved hygiene, and provided practical assistance such as foot baths and health counseling at disaster sites. They also used their basic education, knowledge, and skills while providing disaster relief (23,24). Due to their increasing professional knowledge and skills, nursing students are expected to play an important role in providing health services during disaster response. However, study results indicate that their knowledge and skills in disaster nursing are insufficient, they do not understand the roles of nurses in disasters, and they have no experience in disaster drills (25). Therefore, it is considered crucial to include disaster nursing in the curriculum. Designing and implementing a concrete and systematic disaster education method that strengthens simulation

training related to disasters, using visual and auditory materials, should provide students with opportunities to experience real disaster situations and develop coping skills for disasters (26,27).

It is expected that nurses gather information on health needs, assess victims quickly according to the disaster situation, and make decisions regarding nursing care needs (28,29). Therefore, in this research, activities were planned for students to assess their awareness and preparedness on this matter. Ultimately, participating students expressed gains from their studies on emergencies, recognizing their shortcomings, the importance of empathy in disasters, the significant needs of pregnant women and babies, the sadness of not knowing what to do in disasters, and the importance of psychological resilience and hygiene. Studies indicate that over 80% of nurses volunteering to serve in a disaster have no previous experience in disaster response. There is a global need for all healthcare workers to be prepared and competent in disaster care (29). Nursing students need to acquire such knowledge and competencies, including nursing skills, nursing processes, and practical nursing education, through standard nursing education (25). Nursing students are expected to accurately understand their roles in disaster nursing, adapt their knowledge, skills, and abilities to disaster situations, and be knowledgeable about what they can do to assist other disaster response teams. Such competencies are critical for enabling seamless coordination among healthcare workers and for effective and efficient disaster relief activities. Nursing students who can understand their abilities and roles in disaster situations are thought to be significant supporters in disaster response (28,25).

5. Conclusions and Implications

In this study, as a result of the research conducted by nursing students on maternal and child health approaches in emergencies, students gained knowledge and awareness about the risks posed by emergencies for mothers and children, and what needs to be done to mitigate these risks. They emphasized the importance of hands-on training in this regard. Moreover, they noted their inability to access sufficient literature on the subject. Accordingly, it is recommended

that disaster nursing be included in the nursing curriculum for effective and efficient nursing practices in emergencies, with the course being delivered in both theoretical and practical formats. It is also suggested that qualitative and quantitative studies be carried out with different sample groups and that planning be supported based on the results.

Contact: Zeynep Arabacı
E-Mail: arabacizeynep@hotmail.com

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