RAPID COMMUNICATION

Practices and challenges of disaster nursing for Japanese nurses sent to Nepal following the 2015 earthquake

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Abstract
Aim: This study describes the practices and challenges of disaster nursing experienced by Japanese nurses who were sent to Nepal soon after the 2015 earthquake.
Methods: Semi-structured interviews were conducted with 12 nurses (eight women), with a mean age of 38.6 years (SD 7.3 years). The interview content was analyzed qualitatively and descriptively using content analysis.
Results: Disaster nursing in Nepal included special content due to differences in the disaster sites, environment, and languages. The targets for nursing practices were victims, team members, local medical institutions and support groups, and the local staff in Nepal. Nurses experienced challenges in providing appropriate care related to the local background, communicating with local patients and staff from other countries, and collaborating as a team. Nurses lacked information about local infections; the knowledge level and educational background of local midwives and nurses; the literacy rate; and social characteristics including the caste system, culture, and rules related to health care. Participants also experienced challenges using certain materials due to the high temperature and humid climate (e.g., wound dressings); however, they developed suitable substitutes. Some nurses had difficulty using Fahrenheit thermometers, as they were unfamiliar with the measurement system. Further, the management of heat stroke, infection, and food allergies was necessary.
Conclusions: Major challenges for the Japanese nurses were the shortage of knowledge and skills related to the local background, communication, and team collaboration. These skills should be emphasized in training before deployment, and in basic disaster nursing education.
Key words: disaster nursing, earthquakes, natural disaster, Nepal, nursing

INTRODUCTION
On April 25, 2015, an earthquake occurred in Nepal, which was the worst to hit Nepal in 80 years. Consequently, the Nepalese government declared a state of emergency and requested international assistance (Shrestha, 2018). The earthquake and its aftershocks damaged more than 1,000 medical facilities, and 8 million people were without access to healthcare services (United States Agency for International Development, 2015); thus, the country needed medical tents, medications, surgical equipment, and other medical supplies.

Two groups from Japan traveled to Nepal to provide disaster care for 2 weeks. They worked in the village of Baharibise in the Sindhupalchok District. The first group entered Nepal on April 29, 2015. This group included 35 medical staff members with seven doctors, 17 nurses and 11 other medical staff. The first group treated 645 patients. The patients received treatment mainly for trauma (n = 263), acute respiratory disease (n = 116), and diarrhea (n = 19).

The second group arrived at the site on May 8, 2015. The second group comprised 23 medical staff members, including six doctors, 12 nurses, and five other medical
staff. The second group experienced a substantial after-shock on May 12, and, as a result, moved to Dhulikhel to provide support at a hospital. The second group treated 342 patients. Patients were seen mainly for trauma (n = 118), acute respiratory disease (n = 55) and diarrhea (n = 27). Overall, the two groups treated 987 patients and performed 22 surgeries, including providing surgical support to the local hospitals (primarily for treating fractures) (Japan International Cooperation Agency, 2017).

The number of nurses in Japan who received training in disaster nursing before the Great Hanshin-Awaji Earthquake Disaster in 1995 was quite low (Sakurai, 2011). Further, the need for education and training in disaster nursing has grown worldwide (Achora & Kamanyire, 2016; Loke & Fung, 2014; Wenji, Turale, Stone, & Petrini, 2015); however, there has been limited research on disaster nursing globally due to difficulties in recruiting disaster victims to participate (Sakurai, 2011). The uncertainty of disaster nursing practices may make nurses feel uneasy and hesitant to participate in rescue activities (Matsunaga, Akinaga, Umezaki, & Shinchi, 2013).

Most of the local nurses in Nepal also reported feeling that there was a lack of education about disaster management (Ohara, 2012). Further, there are many other reasons for the delayed medical treatment in Nepal and the resulting worsening of conditions, such as a lack of medical facilities and medications, poor education, accessibility, sanitary conditions, high medical costs, chronic food shortage, religious customs, and the planned blackout system (Shimizu, 2001).

According to Fujii (2005), the nursing skills required for international earthquake relief were: (1) the ability to speak the language spoken in the deployment areas; (2) knowledge of the local culture, customs, and religion; (3) recognition of one’s expected role and position; (4) close communication with relief supporters and cooperation with team members; (5) the management of one’s own safety and health; and (6) disaster nursing knowledge and skills. Japan sent nurses to Nepal, but there have been few reports regarding the specific nursing care they provided, how they utilized these skills, and the challenges during and immediately after the disaster.

The purpose of this research is to report the practices and challenges experienced by the Japanese nurses who were sent to Nepal soon after the 2015 earthquake. As natural disasters are happening regularly worldwide, it is necessary to report on disaster nursing efforts as quickly as possible in this rapid communication. This research could inform future disaster preparation and relief deployment, and could motivate nurses to join disaster nursing efforts.

### METHODS

#### Participants

Participants were 12 Japanese nurses who were sent to Nepal from an organization in Japan when the Nepali earthquake occurred in 2015. Participants’ sociodemographic characteristics are summarized in Table 1. Six participants were deployed in the first group to Nepal, and the rest were in the second deployment. Eight participants (66.7%) had experience working in a hospital emergency department in Japan; six (50.0%) had rescue experience from disaster-affected areas in Japan; and eight (66.7%) had international disaster nursing experience (e.g., Indonesia or Philippines), mainly for earthquakes and floods.

#### Data collection

We conducted semi-structured interviews with the participants in Japanese. The interview structure was based on advice from a nurse co-investigator who had

| Table 1 Demographics of participants (n= 12) |
|--------------------------------------------|
| Age (years) | Mean ± SD | 38.6 ± 7.3 |
| Sex | | |
| n (%) | | |
| Female | 8 (66.7) |
| Male | 4 (33.3) |
| Present occupation | | |
| n (%) | | |
| Nurse | 8 (66.7) |
| University faculty member | 1 (8.3) |
| Graduate student | 1 (8.3) |
| Nurse and graduate student | 1 (8.3) |
| Midwife | 1 (8.3) |
| Educational background | | |
| n (%) | | |
| Master’s degree | 4 (33.3) |
| Graduate student | 2 (16.7) |
| Bachelor’s degree | 2 (16.7) |
| Associate degree | 2 (16.7) |
| Graduated from vocational school | 2 (16.7) |
| Experience in what department | | |
| n (%) | | |
| Emergency unit | 8 (66.7) |
| Neurosurgery | 3 (25.0) |
| Obstetrics and gynecology unit | 3 (25.0) |
| Operation room | 2 (16.7) |
| Mixed wards (department of surgery and internal medicine) | 2 (16.7) |
| Others | 11 (91.7) |
| Cardiology and Cardiac surgery, Dermatology and Urology, Dialysis, General surgery, Intensive Care unit, Nephrology, Orthopedic surgery, Outpatient, Pediatrics, Plastic surgery, Companies | (Each 1 [8.3]) |
experience with being deployed to Nepal after the earthquake. The questions regarding nursing practices and challenges in Nepal that were asked are summarized in Table 2. The interviews were conducted from August to September 2016, in locations that protected participants’ privacy. Interviews were recorded using integrated chip recorder (iPhone recording application voice memos) after obtaining participants’ permission.

**Data analyses**

The recorded content of the interviews was transcribed and analyzed qualitatively and descriptively using content analysis (Yin et al., 2012). The transcribed text was analyzed using the following steps to ensure rigor and trustworthiness:

1. The first author read each participant’s answer several times to become immersed in the data and to gain an overall understanding of the content.
2. The text response for each answer was divided into meaning units and condensed according to the primary content, and the identified units were coded.
3. The codes were grouped into categories and subcategories for each question.
4. To validate the analysis, the second author who had experience with content analysis, checked the initial analysis. Then, the first and second author discussed and revised the coding and categorizations repeatedly until they reached a high level of agreement on how to sort the codes. In the Results section, { } indicate categories, < > indicate sub-categories, and [ ] indicate record units.
5. Finally, the third author, who had been deployed to work in Nepal after the earthquake, and had not participated in the previous coding and categorization process, confirmed the coding.

**Ethical considerations**

This study was approved by the Institutional Review Board of the authors’ university (approval no. M2016-040). Participants were informed of the study purpose, the nature of voluntary participation, anonymity, the protection of personal information and that they would not be at a disadvantage by declining to participate, and the freedom to withdraw both verbally and in writing. Individuals who voluntarily agreed to participate then signed consent forms. In addition, we explained to participants that they were not required to reveal identifying information during the interview.

**RESULTS**

**Disaster nursing practice in Nepal**

The identified targets for disaster nursing practice were classified into four categories: {Victims}, {Team members}, {Local medical institutions and support groups}, and {Local staff in Nepal} (Table 3). The medical team expanded their roles while in Nepal by providing care for inpatients, surgical and dialysis patients in addition to caring for outpatients. A wound, ostomy, and continence nurse (WOC) and a nurse practitioner mainly provided [Wound care] to {Victims}. The [Workshop of disaster nursing] with the {Local staff in Nepal} reviewed problems such as hygiene management, managing patients while having limited medical materials, equipment in the hospital, and how to improve these problems during the continued aftershocks.

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**Table 2 Interview questions**

| No. | Question                                                                 |
|-----|---------------------------------------------------------------------------|
| 1   | How did you gather information about the background and disaster in Nepal?|
| 2   | What disaster education and disaster nursing training did you complete in Japan? |
| 3   | What were the specific nursing duties you provided in Nepal, and what were the differences between the care you provided in Japan and Nepal? |
| 4   | What were the challenges for Japanese nurses who were sent to Nepal for earthquake rescue? |

**Table 3 Disaster nursing practices in Nepal**

| Target                      | Place                  | Specific content                                      |
|-----------------------------|------------------------|-------------------------------------------------------|
| Victims                     | Outpatient             | Reception, triage, Assisted with medical treatment    |
|                             |                        | Wound care, Education about preventive care, Prenatal checkup |
|                             | Inpatient              | Direct care to inpatients (day/night shift)           |
|                             | Operation room         | Surgical instrument assistant Management of materials or supplies |
| Team members                |                        | Colleagues’ health care, Task coordination, Help other staff |
| Local medical institutions and support groups | Coordination of patients’ transitional care |
| Local staff in Nepal Hospital | Support for shortages of local staff, Workshop on disaster nursing |
Challenges with disaster nursing in Nepal experienced by the Japanese nurses were classified into three categories: Challenges with the nursing profession, Challenges for the deploying organization, and Support systems for the deployment. The category of Challenges with the nursing profession was then classified into three subcategories: Management and nursing skills, Evaluation of nursing activities, and Shortage of education. Challenges for the deploying organization had two subcategories: Efficient organizational activities and Utilization of limited resources. Support systems for the deployment was classified into two subcategories: Support before the deployment and Support during the deployment (Table 4). The following are detailed explanations about the challenges.

### Challenges with disaster nursing in Nepal

#### Management and nursing skills

In their statements about the [Consideration for nursing care related to the disaster zone site (n = 12)], participants stated that it was necessary to understand aspects of the disaster zone sites, such as the climate, sanitation, culture, customs, religion, society, education, level of medical quality and nursing methods, and to provide nursing care that meets patients’ needs despite the short preparation time before deployment. For example, one nurse indicated the following:

> We have to judge if the type of wound dressings is appropriate for the high-temperature and humid climate in Nepal. If we use them on wounds contaminated by soil that was caused by the falling

### Table 4 Challenges of disaster nursing in Nepal (n = 12)

| Category | Subcategory | Record unit (number of respondents) |
|----------|-------------|-------------------------------------|
| 1. Challenges with the nursing profession | 1) Management and nursing skills | Consideration for nursing care related to the disaster zone site (n = 12) Development of communication methods with patients (n = 12) Team collaboration with staff during the first meeting (n = 12) Managing one’s own physical and mental condition (n = 11) Providing mental health care to patients (n = 9) Information gathering about the local situation (n = 8) Improvement of general practical nursing skills (n = 7) Improvement of advanced nursing skills in one’s own specialized field (n = 6) Improvement of disaster nursing skills (n = 5) Lack of knowledge beyond one’s own specialized field (n = 3) |
| | 2) Evaluation of nursing activities | Evaluation methods used to measure nursing effectiveness (n = 10) Use of Applied Nursing Diagnoses (n = 9) Visualization of the nursing role (n = 7) Inadequate use of past nursing practices (n = 3) Record management method (n = 3) |
| | 3) Shortage of education | Education concerning international and disaster nursing (n = 12) Lack of language skills, both English and local (n = 10) |
| 2. Challenges for the deploying organization | 1) Efficient organizational activities | Continuing local support after the period of deployment (n = 12) Collaboration to provide support with other countries (n = 10) Unified nursing practice in the organization (n = 7) Inadequate visualization and activity reflection by the organization (n = 6) |
| | 2) Utilization of limited resources | Availability of needed supplies (n = 12) Inadequate guidance for patients due to limited time (n = 5) Workforce shortage (nurses, life guidance personnel, interpreters, etc.) (n = 3) |
| 3. Support systems for the deployment | 1) Support before the deployment | Difficulties in getting support for adjusting work schedules in Japan (n = 10) Training before the deployment (n = 9) Family understanding (n = 8) |
| | 2) Support during the deployment | Safety management (n = 6) |

### Challenges with the nursing profession

#### Management and nursing skills

In their statements about the [Consideration for nursing care related to the disaster zone site (n = 12)], participants stated that it was necessary to understand aspects of the disaster zone sites, such as the climate, sanitation, culture, customs, religion, society, education, level of medical quality and nursing methods, and to provide nursing care that meets patients’ needs despite the short preparation time before deployment. For example, one nurse indicated the following:

> We have to judge if the type of wound dressings is appropriate for the high-temperature and humid climate in Nepal. If we use them on wounds contaminated by soil that was caused by the falling
blocks in Nepal’s climate, it can accelerate infection. Recently, it has been said that with wounds, it is better to leave in moisture; but, in Nepal, using traditional gauze may be better to prevent infection.

Participants stated in the [Development of communication methods with patients (n = 12)] that it was important to learn local language and customs quickly, to evaluate if the patients could understand what is being said, to use simple words rather than technical terms when communicating through an interpreter, and utilize other communication methods, such as using body language.

In the [Team collaboration with staff during the first meeting (n = 12)], participants stated that it was important to be cooperative, to clarify one’s own role in the team, and to have knowledge of the qualifications and roles of the other staff members, even though they would be meeting for the first time at the time of deployment. It was also important to care for team members’ health and encourage each other, as the aftershocks profoundly affected the staff’s mental health.

Through the [Managing one’s own physical and mental condition (n = 11)], participants indicated that it was important to take care of one’s own health and manage stress due to the unfamiliar environment, group duties, and the aftershocks. One participant indicated an allergy to Indian curry, which required being careful about consuming local food.

Responses regarding [Providing mental health care to patients (n = 9)] revealed that nurses had trouble providing mental health care to the patients because they were not experienced in this area and there were time limitations and language barriers. Three participants reported that they felt their provision of mental health care to patients was effective.

We may not directly understand their situations and emotions because we are foreigners and can respond objectively to patients without excessive empathy that can hurt nurses’ own mental health.

When having trouble with [Information gathering about the local situation (n = 8)], participants encountered a shortage of information and knowledge about the following: local infections; the level of knowledge and educational background of local midwives and nurses; literacy rate; deployment locations; social characteristics, such as the caste system, culture, and rules related to health care; and a difficulty in understanding vital information from international organizations.

**Evaluation of nursing activities**

Challenges regarding the [Evaluation methods used to measure nursing effectiveness (n = 10)] were reported by nurses, including that evaluating the results of nursing practice was difficult due to the lack of time, a shortage of established effective methods to evaluate nursing practice, and difficulties in describing nursing practice. Some participants stated that the evaluation of nursing care was difficult because there were no groups available for comparison. The following statement from the nurses expressed similar challenges related to the [Visualization of the nursing role (n = 7)]:

> Doctors can say how many patients they saw by naming their diagnoses, and medical technicians can say what kind and how many examinations they did. However, nurses perform a wide variety of tasks, usually very close to patients; but it is hard to measure the outcomes. The nurses’ role is supporting the patients to return to their previous lives. We have to clarify and visualize what we do in disaster areas although our roles are categorized into assisting treatment and assisting with patients’ lives.

Regarding the [Use of Applied Nursing Diagnoses (n = 9)], participants used the Applied Nursing Diagnoses of NANDA International Inc. (NANDA International, 2018) as a tool to evaluate nursing care. Some stated that using the Applied Nursing Diagnoses was very helpful to reveal patients’ conditions from nurses’ point of view, but others reported difficulty using it because it was not used in their workplaces in Japan, and they could not get used to using it.

**Shortage of education**

Regarding the [Education concerning international and disaster nursing (n = 12)], participants reported the necessity of developing international disaster nursing through providing basic education, understanding international standards, organization, and management during times of disaster relief, and improving the awareness and understanding about disasters abroad.

In the [Lack of language skills (n = 10)], nurses felt that they lacked enough English and local language skills when they were communicating with patients and staff from other countries. As most Japanese nurses have few opportunities to speak English regularly despite learning it in school, they had trouble speaking English at the time of deployment. Many stated that they need to improve their English-language skills, especially as it is a common language used throughout the world.

**Challenges for the deploying organization**

**Efficient organizational activities:** Participants reported difficulty in [Continuing local support after the period of deployment (n = 12)] because their time was limited, and
they had to leave suddenly. Participants needed to provide education and train patients as well as local healthcare workers so that they could provide care by themselves; however, the nurses reported that they did not have enough time to adequately support local healthcare professionals until the medical system had recovered from the disaster.

During the [Collaboration to provide support with other countries (n = 10)], it was necessary to share information about the specialty of the team, to develop means for functional collaboration, and arrange a communication system with each country to enable the team to support local people quickly.

**Utilization of limited resources:** In the [Availability of needed supplies (n = 12)], participants felt better to use local materials as much as possible to make it easier for local people to effectively use them. Additionally, they reported the need to share information about the goods and supplies brought from outside Nepal, as well as the availability of local materials and goods, and that it is necessary to reconsider the methods of managing supplies before deployment and what should be brought to the disaster zone. Some participants mentioned difficulties with transferring supplies from Japan to Nepal. Improvised local products were also used: cut polyethylene terephthalate bottles instead of oxygen masks; vinyl bags instead of dressings; pressure cookers instead of sterilizers; paper clips instead of hairpins to tie gauges on the head; tent ropes to hang intravenous drips instead of intravenous poles; sheets with clothespins to maintain privacy; gum tape on patients and their family members for identification purposes; clothes to squeeze the pelvis of a woman who is in preterm labor when her fetus is down; scarves or sheets to cover plaster leg casts for an arm fracture in the absence of triangle wound dressings; and plastic bags, diapers, or cans to cover plaster leg casts to keep them clean on dirty roads. Some participants indicated that they should have brought Celsius thermometers from Japan, as only Fahrenheit thermometers were available in the affected area, and they were not familiar with Fahrenheit measurement. Regarding substituting materials, one participant mentioned:

> When the instrument is not available, if we know its basic function and principle, we can use a substitute. The ability to be able to improvise is not different between daily work and disaster work. We cannot do what we cannot do in daily work for the first time when disasters happen.

One nurse, commenting on the necessity of sharing information about the availability of supplies in the affected area, said:

> Sometimes we did not find where the supplies were even though we had brought them. It took time for everyone to understand what and where the supplies were. We thought there was a shortage of diapers but found many later.

**Support systems for the deployment**

**Support before the deployment:** Participants stated, through the [Difficulties in getting support for adjusting work schedules in Japan (n = 10)], that it was difficult for them to coordinate their regular work schedules while they were deployed, and to get support from colleagues in their hospitals about disaster nursing because their colleagues had to work additional shifts to fill in for the deployed nurses, and they felt burdened by the extra work. About the [Training before the deployment (n = 9)], the nurses stated training using disaster simulation, including discussion, which is based on experiences is necessary.

**Support during the deployment:** In [Safety management (n = 6)], one nurse said:

> There was an episode where a block fence had collapsed due to aftershocks at the time of the second deployment. We had to prepare for aftershocks and consider how we would escape them. We had to consider not only local security but also secondary disasters following aftershocks. From a medical perspective, we should have prevented needle stick accidents. It was important for us to take standard precautions, such as using gloves and masks as we did not know what infection local people might have, including HIV.

Additionally, participants mentioned the necessity of preventative measures against heat stroke and infections for interpreters.

**DISCUSSION**

The targets for disaster nursing practices in Nepal included victims, team members, local medical institutions and support groups, and the local medical staff. The nursing practices included special requirements that differed from the usual medical care in Japan, due to the presence of the disaster, as well as differences in environment and language. We identified three categories related to challenges in disaster nursing experienced by Japanese nurses in Nepal: challenges with the nursing profession, challenges for the deploying organization, and support systems for the deployment. Nurses faced challenges with providing appropriate nursing care related to the disaster zone site, communicating with
patients, collaborating as a team, having effective methods of evaluating their nursing care, and lacking education regarding international disaster nursing. Participants had challenges with the availability of supplies, such as oxygen masks or sterilizers; however, they used the available local goods appropriately. Some also had difficulty using Fahrenheit thermometers because they were not used to that measurement system in Japan. Additionally, they reported experiencing heat stroke and food allergies due to Nepali climate and cuisine, respectively, which affected staff members’ health. They also had difficulties cooperating with work colleagues in Japan (e.g., adjusting work schedules during deployment).

We will discuss Japanese nurses’ challenges in Nepal according to the six nursing skills by Fuji (2005) that are required for international earthquake relief.

Language ability in deployment areas
Participants had challenges communicating with patients. Mastering a language quickly in diverse deployment destinations is difficult, and it is unrealistic to learn specific regional languages continuously. Therefore, it may be realistic to study English, as it is a universal language. Nurses could also use specialized communication equipment and a variety of communication tools to reduce language barriers (Menegat & Witt, 2018).

Knowledge of local culture, customs, and religion
Participants had challenges practicing their nursing, which was related to the disaster zone site and their ability to gather information. It is critical that nurses who work overseas develop cultural awareness and sensitivity before arriving at disaster sites (Norton & Marks-Mar, 2014). More information about the local conditions and environment appears to be necessary before deployment; however, nurses can only understand part of the target culture. Cultural competence is an ongoing process in which healthcare providers can work effectively within a new cultural context of the client (e.g., individual, family, and community; Campinha-Bacote, 2002; Crigger & Holcomb, 2007). Flexibility is essential to work at disaster sites (Norton & Marks-Mar, 2014). Therefore, it is necessary to enhance cultural competence and flexibility while completing one’s daily tasks.

Recognition of one’s expected role and position
Participants reported challenges with the methods used to evaluate their nursing practices and the visualization of the nursing role. During their Nepal deployment, nurses used Applied Nursing Diagnoses to visualize and describe nursing practices and processes so that others could understand what is involved. Some participants felt comfortable using this to better understand patients’ backgrounds. However, the nursing diagnoses were not fully utilized because some nurses lacked the needed education and experience with nursing diagnoses. It is vital to use a standard, commonly used tool to evaluate nursing activities to reduce psychological burden (Shinpuku & Harada, 2015). The establishment of easily used evaluation methods to measure nursing practice is necessary to clarify disaster nursing practices and utilize them in future deployments.

Close communication with relief supporters and cooperation members
Participants reported the importance of being cooperative, clarifying one’s own role in the team, and knowing the qualifications and roles of other staff members. A team consisting of participants from different countries can communicate with each other to build trust and a constructive relationship, making them work together more effectively (Girgis 2007, Tjo & Karlsen 2013). In an activity report concerning the affected areas from the Typhoon Haiyan in the Philippines, building relationships with international organizations and other countries during peacetime was recognized as one of challenges (Nakamura, Katsube, Nakaji, Takashima, & Ezaki, 2015). The current participants reported similar challenges, such as managing the available local supplies and collaborating with teams from other countries. In addition, based on the need for continuous nursing care, consideration should be given to developing ways for local medical staff and support groups to continue the nursing practices that were put in place during the disaster (Kogure et al., 2011).

Own safety management and health management capabilities
Participants stated the importance of caring for one’s own and team members’ health, especially mental health, infections, heat stroke, and allergies to local foods. Psychological shock has been found to occur in both the people who were affected by the disaster and the people who provided care after the disaster (Menegat & Witt, 2018). Infection control issues in shelters, such as hand hygiene, products/facilities, sanitation, outbreaks of unusual infectious diseases, overcrowded conditions, and poor environmental decontamination are critical to prevent secondary disease transmission (Rebmann, Carrico, & English, 2008). The present study newly reported the heat stroke and food allergy specifically
related to Nepali climate and culture in order to care for staff health. Preparation and being wary of aftershocks were also found to be important aspects.

Disaster nursing knowledge and skills

Participants reported shortage of education concerning international and disaster nursing and that there is a need to improve disaster nursing skills. It is necessary for nurses to not only obtain training that involves using disaster simulations in different circumstances, but also improve their nursing skills in their daily nursing activities. Therefore, understanding different cultures, communication skills, and team collaboration should be more strongly emphasized in the basic disaster nursing education.

If nurses who worked in disaster areas share their experiences with their colleagues, with organizations, or make their experiences available for publication, the field of disaster nursing will be advanced. Further, if these efforts receive media coverage, disaster-preparedness awareness may increase globally. The role of social media in disaster management became cemented during the global response to the 2010 Haiti earthquake (Keim & Noji, 2011). Future media coverage of responses to disasters should receive continuous review.

Due to the small sample size and because participants were recruited from only one organization, it is difficult to generalize the results. Further research with more participants from more diverse organizations is necessary. Nonetheless, our results help inform the field of disaster nursing and may motivate people to engage in disaster nursing.

CONCLUSION

Major challenges for the Japanese nurses who were sent to Nepal soon after the earthquake included the shortage of knowledge and skills related to the disaster zone site, communication, and team collaboration. These skills should be emphasized in training before deployment and in basic disaster nursing education.

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AUTHOR CONTRIBUTIONS

Both SM and AK contributed to the conception and design of this study. SM collected data, performed the content analysis, and drafted the manuscript. AK helped with analyses, critically reviewed the manuscript, and supervised the study process. YT helped create the interview guide, helped with analyses, and critically reviewed the manuscript.

DISCLOSURE

The authors declare that they have no conflicts of interest.

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