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Factors Influencing on Nurses' Responses during Flood Disaster

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Abstract: Nurses have a crucial role in any disaster situation and must respond effectively to fulfil their responsibilities. The aim of this study is to explore the factors that contribute and hinder nurses' effective responses during the flood in the East Coast region of Malaysia. An exploratory qualitative design was used in this study. Seven nurses from two hospitals were included in the semi-structured interviews who were chosen by purposive sampling and snowball sampling. Data were transcribed and analysed using thematic analysis. Four major themes emerged including accessibility of resources, knowledge about flood disaster management, support system, and willingness to participate in disaster management. As a result, there is a need to conduct flood disaster management training to prevent the possible factors that may contribute to the ineffective nursing role during flood disaster in Malaysia.

Keywords: flood disaster, influencing factors, nurses, responses

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I. Introduction

Disasters may give a negative impact to individuals, families and societies in globe. Flood is a common natural disaster experienced in Asian countries including Malaysia and has affected this country since 1971. Therefore, the Natural Disaster Management and Relief Committee (NDMRC) was established in 1972 by the government to cater the flood operations (Mohamad Sukeri, 2015). Primarily, the disaster responses in Malaysia focuses on making sure the communities are safe, but there is a lack of focus on the situation of healthcare personnel and their responses during the disaster. As nurses play a critical part in ensuring the efficiency of healthcare delivery regardless of the situation, the problems that may obstruct or facilitate their services must be explored. Numerous studies have highlighted that factors like disaster situation, and personal barriers can influence their readiness and capability to report to work (Balicer et al., 2006; Chaffee, 2009). Yet, over the past few decades, little information exists regarding the factors that influence nurses to work during the disaster, particularly during the flood in Malaysia. Therefore, this study aimed to explore the factors that contribute or hinder on nurses' responses during the flood disaster.

II. Methodology

The participants were selected using the purposive sampling method, and later snowball sampling and the required data were collected using the semi-structured interview. Purposive sampling was used initially to recognize and choose information-rich participants. Then, it was followed by snowball sampling to reach the required numbers, based on the data saturation. Finally, seven participants were selected who have been working during Massive Floods 2013-2014 in two selected hospitals in Pahang and Terengganu State. The names of respondents were obtained from a previous quantitative part of this study. Once collected, the researchers will ask their permission to be involved in the next stage which involved a face-to-face individual interview. After potential respondents were identified, the date, time and venue for the interview session depend on their convenience was determined. Then, interviewing via Malay language and took around 30 to 45 minutes for each session was done. All interview data was recorded and their behaviours and manners during interview session were also noted. Thematic analysis was conducted to analyze the qualitative data using Braun and Clarke's (2006) method. The process began with the familiarization with the data, and identifying patterns. Next, the process of generating initial codes, searching for themes, reviewing themes, and defining and naming themes were conducted in sequence. Finally, the main themes and sub-themes regarding the topic of interest were obtained and are discussed. Regarding the ethical approval, it was obtained from the Kulliyah of Nursing Post Graduate Research Committee (KNPGRC), Ethical Committee of International Islamic University Malaysia (IREC), National Medical Research Register (NMRR), Medical Research and Ethics Committee (MREC), and Clinical Research Committee (CRC) of both hospitals.

III. Results

A total of seven nurses participated in this study, with the range of experience from 8 to 21 years. All of the participants had never involved in a specific training or course related to the flood disaster. There are four themes explored in this study; accessibility of resources, knowledge about flood disaster management, support system and willingness to participate in disaster management.

3.1. Accessibility of Resources

Mobility issue to present to the working setting had become the main concern in this study. Several participants in this study claimed that the hospital is inaccessible during the flood, thus they were forced to skip work. At that time, the services for taking and bringing back the healthcare workers were also not specifically provided, thus the same nurse may have to work overtime to cover the duty of other nurses who unable to come. This factor clearly limiting nurses ability to serve during the flood, while burdening them.

Participant 6 said:

"Not enough staff... not enough staff because they said the staff had to work for 24 hours"

Nonetheless, other nurses take their own initiative to come to work even though it was risky. Some of the nurses also know where to ask for help, especially in getting access information regarding the route that can be passed. Despite that, the safety of their trip may be a serious issue to be considered.

3.2. Knowledge about flood disaster management

3.2.1. Lack of knowledge

Lack of knowledge may be a hindrance to nurses in performing well during the flood situation. All of the participants in this study claimed that they had never involved in specific flood responses courses during their study or work. Most of them claimed that fire drill is the most common disaster training offered to the staff. One staff said that she had involved in a comprehensive emergency responses course that includes all types of emergency responses outside the healthcare setting, including assistance to victims of drowning. Nevertheless, the course was not really focus on the flood situation.

Participant 6 attested:

"I think it (short course for the flood) is needed because... Kemaman usually... there are some places that have never affected, seldom... but, if flood occur,... like in one year (previously)... so suddenly... so if there is no knowledge about this, it will be slightly chaotic, how(to say)... we can respond to the flood... but if there was training it would be better"

3.2.2. Utilisation of nursing knowledge

Actions and responses of nurses during flood may determine their understanding towards knowledge of nursing roles and responsibility. The knowledge-driven action may contribute in optimizing nurses' roles and promote their effectiveness in responding during the flood situation. Even in the absence of emergency response training among healthcare worker, two of the participants utilized their knowledge and experience in nursing and try to benefits their community. One of them, Participant 5, when conducting a home-based census in her settlement, has included nursing teaching on the hygienic measure during the flood. She said:

"(I) give advice... such as children... food... afraid if being infected by cholera... (because of) the dirty water"

3.3. Support system

3.3.1. Support from the authorities

The government assistance to facilitate the nurses' roles on the flood victims was also crucial. Among the important support that they received was the delivery of adequate medical equipment during flood events.

Participant 2 said:

"Then we asked it (drugs) from the Civil Defence Department... because they were able to ride the boat safely to bring it (drugs) to us"

Participant 4 added:

"Yes... they (authorities) will ask... who stuck here... who was in the ICU... and other questions, they will ask... That was it... then they will give whatever we need"

3.3.2. Support from colleagues

In addition, the support from friends and colleagues also acted as the facilitating factors to nurses responding the flood disaster. For instance, colleagues living near hospitals or residing in hospital quarters played a vital role by providing temporary shelter to affected nurses and their family members. This makes it easy for them to come to work, and ensure the safety of family members who are left behind while giving peace to mind.

Participant 1 said:

It (flood) went up to the knees.... so I called my friend who was living near the quarters... (to) stay over the house, I afraid I could not go to work (laughs)''

''Our friends will bring it(food) here... our friends who were not stuck in the flood... they knew we were here. So we were sharing (food)''

3.4. Willingness

3.4.1. Willingness to serve

There are also nurses who carry out nursing roles even without specific instructions during the flood. They were dedicated, and were willing to sacrifice their times with their family members to serve the flood victims, although all the plans or works have to be done on their own. Even without formal education on disaster management, particularly flood, few nurses displayed a dedication during the flood. One of them volunteers to arrange for staff. Meanwhile, Participant 2 initiated temporary clinic in the flood placement area. She said:

''Because of the various problems in the flood placement area... such as heart disease... diabetes... and they did not bring medicine... so...we contacted the emergency (hospital) here... we set up a clinic there''.

3.4.2. Unprepared to serve

It was also noted that some nurses at the personal level, was not ready to serve or taking any active role during the crucial time. This may due to the absence of policy on what their roles during the flood, making them unsure what to do, and decided to only manage themselves and families.

IV. Discussion

In this study, the researcher found that there were several factors that influence an effective nursing role during the flood, which can be compiled into the four themes: accessibility of resources, knowledge about flood disaster management, support system, and willingness. The general idea regarding the hindrance factors that emerged from these themes was that the nurses responded to the flood disaster by mixed action, basically unprepared, and based on their personal judgments. In addition, the aids for nurses were also on ad hoc basis, along with no systematic system of providing needs during flood were reported by the nurses. The authorities undeniably did provide assistance, especially when it involved the flood victims, but on the nurses part themselves, the aid was inadequate. This signifies that most nurses were not effectively prepared to face disaster.

Furthermore, the majority of nurses in this study also mentioned that they had difficulty because they and their families were also unprepared to face flood, in which may affect their preparation to work. Similarly, a study by Fung, Loke, and Lai (2009) in Hong Kong stated that most nurses were not ready to face disaster. It was identified in this study that during the disaster, the nurses were among the disaster's victim, therefore they had to manage their families and felt reluctant to work. However, early disaster preparation was a factor that affects nurses' willingness to continue working during disaster (Fung, Loke, & Lai, 2008), thus this aspect needs to be given more attention.

The role of education regarding flood is also an angle to link to nurses effectively serve during the flood. Veenema (2006) stated that skills and education is necessary for nurses to efficiently and safely respond to the disaster event. In addition, a systematic review revealed that disaster-related training may increase the preparedness for disaster response (Labraque, et. al, 2017). Unfortunately, flood training course for nurses in Malaysia has not yet been established, though it is a crucial part of the national emergency response. The findings of this study provide a clearer picture of the inadequate preparations of nurses that hinder an effective responses, and suggest the need for a well-planned training program.

V. Conclusion

The research was conducted to explore the factors influencing on nurses' responses during flood disaster in the East Coast region of Malaysia. As an emergency response training that involved health care workers has not been developed yet, the nurses in this study showed that diverse responses which contribute or hinder their responses in performing during disaster. In order to reduce obstructing factors to provide the effective nursing care delivery during disaster, the factors that hinder nurses' effectiveness responses involved the lack of support, and lack of knowledge must be prevented. Finally, this study suggested that there is needed to conduct flood disaster training to fill up the gap of nurses' knowledge while offering a more holistic aids and support system by the authorities.

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