

Overview of Emergency Preparedness of Nurses in Hospitals in the Face of Disasters

Zahra Ananda, Hasanatun Laili, Mayumi Ershanda, Abdurrozzaq Hasibuan

Fakultas Kesehatan Masyarakat UIN Sumatera Utara Medan

Fakultas Teknik Universitas Islam Sumatera Utara

e-mail : zahraananda045@gmail.com, husanatunlaily12345@gmail.com,
mayumiershanda@gmail.com, rozzaq@uisu.ac.id

Alamat : Jl. Sisingamangaraja No.Kelurahan, Teladan Bar., Kec. Medan Kota, Kota Medan, Sumatera Utara 20217

Korespondensi email : zahraananda045@gmail.com

ABSTRACT

This research aims to identify and examine the emergency preparedness of nurses in hospitals in dealing with disasters through the literature review method. Hospitals have an important role in disaster preparedness and management, because they must be able to provide a quick and effective response to emergency situations caused by disasters. Data were collected from articles and national journals published in the last 10 years, using related keywords such as "nurse preparedness", "emergency", "disaster management in hospitals", and "disaster training for nurses". Analysis was carried out on 30 articles that met the inclusion criteria. The research results show that nurses' knowledge of disaster management is still inadequate, even though many have basic knowledge of emergency protocols. Practical skills obtained through training and disaster simulations have a big influence on nurses' preparedness, but opportunities to take part in this training are not evenly distributed. Nurses' perceptions regarding hospital preparedness and themselves show that many feel that hospitals are not fully prepared to face major disasters. Hospital management support and access to relevant information are also important factors influencing nurse preparedness. Recommendations from this research include increasing routine disaster training and simulation programs, developing formal education curricula on disaster management, increasing hospital management support, utilizing information technology for quick access to disaster information, as well as monitoring and evaluating preparedness on a regular basis. By implementing these recommendations, it is hoped that nurses' preparedness in facing disasters can be improved, so that they are able to provide a fast and effective response in emergency situations, as well as improve patient safety.

Key words: nurse preparedness, emergency, disaster management, disaster training, hospital management.

INTRODUCTION

Hospitals play an important role in emergency and disaster preparedness so that these health facilities must always be ready to receive emergency and disaster victims who need quick and precise assistance. The hospital also has a critical function in disaster management. to limit the impact of disasters to the loss of life (Delima & Putra, 2021). Hospitals, namely as a means of health services, referral services, especially for emergency cases, should be better prepared to deal

with the impact of disasters inside or outside the hospital. Hospital readiness in a disaster is required to be able to manage daily services, both services for victims due to disasters and actively assist in saving the lives of disaster victims (Fischer, 2017).

Emergencies and disasters can occur anytime, anywhere and happen to anyone so that important components in an integrated emergency management system must be well prepared, starting from the pre-hospital level, in hospitals and hospital referrals. This disaster poses its own challenges for each medical service institution in terms of infrastructure, capacity and preparedness, especially in hospitals (Putra, 2018). Preparedness is one of the activities carried out to anticipate disasters through an appropriate organizing system and is useful in ensuring fast and appropriate efforts when facing disasters that occur (Ihsan et al, 2022)

A disaster is not just one single event, but has three phases: pre-incident, incident, and post-incident. To reduce the impact of disasters across different phases, many nursing activities are needed, including prevention or mitigation, preparedness, response, recovery, and reconstruction or rehabilitation. In particular, an initial response is needed to save as many lives as possible, provide care to meet the immediate needs of disaster-affected populations, and to reduce the long-term health impacts of disasters. The increasing frequency of disasters around the world requires nurses to adequately prepare to respond to disasters to mitigate the negative consequences of events on affected populations. Although initiatives are growing to prepare nurses for every disaster, evidence shows nurses are poorly prepared to respond to disasters (Ramdani et al, 2020).

Nurse preparedness in facing disasters is a trending topic in several literatures. Nurses in Indonesia with the highest number of health professions of other health professions are 460,267 nurses registered with BPPSDM Health HR Information (BPPSDM, 2020). Research on 1341 nurses in assessing the perception of Indonesian nurses on preparedness, knowledge and skills of each in general nurses involved in this study revealed less prepared and still low in facing disasters and did not understand their role at the disaster preparedness stage and facing post-disaster situations (Martono et al., 2019). Nurses' preparedness in facing disasters needs to be supported by nurses' competence in disaster management. One of them is by participating in disaster training education and formal disaster simulation. So that nurses are ready to face disaster management effectively. (Setyawati et al., 2020).

Mixed results from previous studies prove the need for further review of similar studies. So the purpose of this systematic review is to identify the results of existing research on emergency preparedness of nurses in hospitals in facing disasters more comprehensively

RESEARCH METHODS

This research is a literature review that uses data collection methods through literature studies. Literature studies are carried out by looking for data from published national articles or journals related to the keywords of this research. The data collection process begins with accessing the database on Google Scholar to find relevant articles and journals.

The first step in this literature study is to design keywords that are in accordance with the research topic, namely the emergency readiness of nurses in hospitals in facing disasters. Keywords used include "nurse preparedness", "emergencies", "hospital disaster management", "nurse disaster preparedness", and "disaster training for nurses". These keywords are then used to conduct literature searches on Google Scholar.

Once the initial search is done, the next step is to filter the search results. Filtering is carried out based on the title, abstract, and content of articles or journals in accordance with the research topic. Articles that are irrelevant or do not fit the research inclusion criteria will be excluded from the list. Inclusion criteria include articles or journals that discuss nurse preparedness, emergency management, disaster training, and that are published within a specific time frame (for example, the last 10 years) to ensure the data used is current and relevant.

The filtered articles are then further analyzed. Analysis is carried out by reading the full text of the selected article or journal to extract the necessary data. The extracted data includes the main findings, research methods used, research samples, research results, and conclusions relevant to the topic of nurse preparedness in facing disasters.

Once the data is extracted, the next stage is to organize and synthesize findings from various articles and journals. This synthesis process involves identifying major themes, patterns, and gaps in the existing literature. The synthesized findings are then used to draw up more comprehensive conclusions about the emergency preparedness of nurses in hospitals in the face of disasters.

Through this literature review method, research is expected to provide a comprehensive picture of nurses' readiness in handling disasters, identify factors that affect preparedness, and

provide recommendations for improving and improving nurses' preparedness in hospitals. The results of this literature study will be the basis for developing more effective policies and training programs in order to improve nurses' readiness to face emergency and disaster situations.

RESULTS AND DISCUSSION

Theoretical Studies

Disaster Preparedness

Disaster preparedness refers to actions taken before a disaster occurs to ensure that individuals, communities, and organizations are able to respond effectively. Preparedness involves planning, training, and capacity building needed to mitigate the impact of disasters and accelerate post-disaster recovery. According to Fischer (2017), disaster preparedness is a systematic effort to improve the community's ability to face, respond, and recover from the impact of disasters through careful preparation.

Emergencies

An emergency is a medical condition or critical situation that requires immediate intervention to save lives, prevent further injury, or minimize damage. In a hospital context, emergencies include a variety of clinical situations such as heart attacks, accidents, or natural disasters that cause a surge in patients with urgent medical needs. Emergency skills including triage, resuscitation, and patient stabilization are essential for nurses working in emergency departments and ICUs.

Disaster Management in Hospitals

Hospital disaster management includes all measures and procedures implemented to manage the impact of a disaster, including casualty admission, triage, emergency medicine, and coordination with other health services. Putra (2018) explained that effective disaster management in hospitals requires structured contingency plans, regular training for staff, and good coordination between various departments and related institutions.

Disaster Training and Simulation

Disaster training and simulation are learning methods designed to improve the preparedness of individuals and medical teams in dealing with disaster situations. This training typically includes realistic simulation scenarios, triage drills, use of emergency equipment, and evacuation procedures. Setyawati et al. (2020) stated that structured disaster training and simulation can improve nurses' practical skills and confidence in emergency situations.

Nurses' Perceptions of Preparedness

Nurses' perceptions of preparedness refer to nurses' views and beliefs regarding their own abilities and the health facilities they work with in dealing with disasters. This perception is influenced by personal experience, training received, and support from hospital management. Research by Ramdani et al. (2020) shows that a positive perception of preparedness can improve nurses' motivation and performance in emergency situations.

Integrated Emergency Management System

An integrated emergency management system is a framework that integrates various components and actors in responding to emergency and disaster situations in a coherent and coordinated manner. The system covers pre-incident, incident, and post-incident phases, and involves various agencies such as hospitals, ambulance services, and local authorities. According to Putra (2018), this system must be able to function properly at all stages of a disaster to reduce negative impacts and increase response efficiency.

Mitigation and Recovery

Mitigation is an effort to reduce or eliminate disaster risk through preventive measures and careful preparation. Recovery, on the other hand, is the process of restoring normalcy after a disaster occurs, including physical and psychosocial rehabilitation. Fischer (2017) emphasizes that these two aspects are important in the disaster management cycle, and nurses play an important role in each phase to ensure patient safety and well-being.

Result

This study aims to identify the emergency preparedness of nurses in hospitals in facing disasters through a literature review. Data was collected from national articles and journals published in the last 10 years using related keywords such as "nurse preparedness", "emergencies", "disaster management in hospitals", "nurses' disaster preparedness", and "disaster training for nurses". Articles found through Google Scholar are filtered by title, abstract, and content appropriate to the research topic. From these searches, 30 articles were obtained that met the inclusion criteria.

Knowledge of Disaster Management

Research shows that nurses' knowledge of disaster management varies significantly. Many articles reveal that most nurses have basic knowledge of disasters and emergency management protocols. However, in-depth knowledge of disaster management and specific actions is often inadequate. Research by Martono et al. (2019) shows that less than 50% of nurses surveyed feel confident in their knowledge of specific disaster procedures. This limited knowledge indicates the need for more intensive ongoing training to ensure all nurses have adequate understanding.

Emergency Skills

Nurses' skills in handling emergency situations are also a major focus in this study. Many articles emphasize the importance of practical skills acquired through training and simulation. According to research by Setyawati et al. (2020), nurses who have attended disaster training and simulation show better skills in disaster management compared to those who have never attended training. Skills assessed include triage, resuscitation, patient stabilization, and use of emergency equipment. However, the study found that not all nurses have the same opportunity to attend this training, which can lead to gaps in emergency preparedness.

Experience in Disaster Training and Simulation

Nurses' experiences in disaster training and simulation vary, but most studies show that this kind of training has a positive impact on their preparedness. Fischer (2017) emphasizes that nurses who are often involved in disaster simulations are better prepared to deal with actual emergency

situations. Research by Putra (2018) also shows that regular training can improve the responsiveness and coordination of medical teams during disasters. However, there are constraints in the implementation of training, such as limited resources and time, which can affect the frequency and quality of training.

Perceptions About Hospital Preparedness and Yourself

Nurses' perceptions of hospital preparedness and themselves were also an important focus in the study. The results of several studies show that many nurses feel that their hospitals are not fully prepared for major disasters. Ramdani et al. (2020) found that only about 60% of nurses believe that their health facility has an effective disaster management plan in place. This perception is influenced by the nurse's personal experience, the quality of training received, and the level of support from hospital management.

Factors Affecting Preparedness

Several key factors affecting nurses' preparedness in the face of disasters were identified in the study. Such factors include:

1. **Training and Education:** Formal education and continuing training play an important role in improving preparedness. The articles analyzed show that comprehensive training, including disaster simulations, is very effective in preparing nurses for emergency situations.
2. **Practical Experience:** Hands-on experience in dealing with real disasters or simulated disasters is invaluable. Research shows that nurses with practical experience are more confident and competent in dealing with disasters.
3. **Management Support:** Support from hospital management, including the provision of adequate resources and a conducive work environment, is essential for nurse preparedness. Research reveals that nurses who feel supported by management are better prepared for disasters.

4. Access to Information: The availability and accessibility of up-to-date information on disaster management protocols also affects preparedness. Nurses who have easy access to relevant information tend to be better prepared.

Discussion

The results showed that nurses' preparedness in facing disasters in hospitals still needs to be improved in various aspects. Knowledge, skills, and practical experience are key factors influencing nurses' readiness for emergency situations. The following are some important points identified from the results of the literature review review:

Knowledge and Education

Adequate knowledge of disaster management is essential for preparedness. Research findings show that although many nurses have basic knowledge, their understanding of specific procedures and actions to be taken during disasters is often inadequate. This shows the importance of formal education and training focused on disaster management. Continuing education programs and certification in disaster management can be a solution to improve nurses' knowledge.

Practical Skills

The practical skills gained through disaster training and simulation are highly influential to nurses' preparedness. Research shows that nurses who participate in disaster simulations have better skills in handling emergency situations. Simulations allow nurses to practice in an environment close to real situations, which helps them develop quick and effective responses. Therefore, disaster training and simulation should be a regular part of nurses' professional development programs.

Experience and Exposure

Hands-on experience in handling real disasters or simulated disasters gives nurses confidence and competence. Research shows that nurses with practical experience are better prepared and able to deal with emergency situations calmly and efficiently. Hospitals need to provide more opportunities for nurses to participate in disaster drills and other emergency response activities.

Management Support

Support from hospital management is essential for nurse preparedness. Research shows that nurses who feel supported by management have higher levels of preparedness. This support can take the form of providing adequate resources, ongoing training, and recognition of the importance of disaster preparedness. Hospital management must ensure that a comprehensive disaster management plan is in place and that all staff are involved in routine disaster drills and simulations.

Access to Information

The availability and accessibility of relevant information on disaster management greatly affects nurses' preparedness. Nurses need to have easy access to protocols, guidelines, and other resources that can help them in emergency situations. Information technology can be used to provide quick and easy access to this information. Hospitals can develop applications or online systems that provide access to important information related to disaster management.

Recommendations for Improved Preparedness

Based on the results of the study, several recommendations can be given to improve nurses' preparedness in facing disasters in hospitals:

1. **Improved Training and Simulation Programs:** Hospitals should implement routine and comprehensive disaster training and simulation programs for all nurses. This training should cover various aspects of disaster management, including triage, resuscitation, patient stabilization, and the use of emergency equipment.
2. **Disaster Education Curriculum Development:** Nursing education institutions should develop a curriculum that includes formal education on disaster management. This curriculum should include theory and practice, as well as provide certification for nurses who complete the program.
3. **Improved Management Support:** Hospital management must ensure that all nurses feel supported and have adequate resources to deal with disasters. This includes the provision of

personal protective equipment, emergency medical equipment, and access to up-to-date information.

4. **Use of Information Technology:** Hospitals should utilize information technology to provide quick and easy access to disaster management protocols and guidelines. The development of online applications or systems can assist nurses in accessing the necessary information during emergency situations.
5. **Monitoring and Evaluation of Preparedness:** Hospitals should conduct regular monitoring and evaluation of nurses' preparedness. This can be done through audits, surveys, and disaster simulations that are held periodically. The results of this evaluation can be used to identify areas that need improvement and develop more effective improvement strategies.

CONCLUSION

This study aims to describe the emergency preparedness of nurses in hospitals in facing disasters through a literature review review. Based on the analysis of various national articles and journals, some of the main findings can be summed up as follows:

1. **Knowledge of Disaster Management:** Many nurses have basic knowledge of disasters and emergency protocols, but in-depth knowledge of disaster management is still inadequate. This points to the need for ongoing training to ensure a better understanding of specific disaster procedures.
2. **Emergency Skills:** Practical skills acquired through disaster training and simulation are highly influential to nurses' preparedness. Nurses who attended the training showed better skills in handling emergency situations.
3. **Experience in Disaster Training and Simulation:** Practical experience in dealing with real disasters or disaster simulations gives nurses confidence and competence. However, opportunities for training and disaster simulation are uneven among nurses.

4. **Perceptions About Hospital Preparedness and Yourself:** Many nurses feel that their hospital is not fully prepared for a major disaster, and this perception is influenced by personal experience, the quality of training received, and the level of support from hospital management.
5. **Factors Affecting Preparedness:** Training and education, practical experience, management support, and access to information are major factors affecting nurse preparedness.

SUGGESTION

Based on the research findings, several suggestions can be given to improve the emergency preparedness of nurses in hospitals in the face of disasters:

1. **Improved Training and Simulation Programs:** Hospitals should implement routine and comprehensive disaster training and simulation programs for all nurses. This training should cover various aspects of disaster management, including triage, resuscitation, patient stabilization, and the use of emergency equipment.
2. **Disaster Education Curriculum Development:** Nursing education institutions should develop a curriculum that includes formal education on disaster management. This curriculum should include theory and practice, as well as provide certification for nurses who complete the program.
3. **Improved Management Support:** Hospital management must ensure that all nurses feel supported and have adequate resources to deal with disasters. This includes the provision of personal protective equipment, emergency medical equipment, and access to up-to-date information.
4. **Use of Information Technology:** Hospitals should utilize information technology to provide quick and easy access to disaster management protocols and guidelines. The development of online applications or systems can assist nurses in accessing the necessary information during emergency situations.

5. Monitoring and Evaluation of Preparedness: Hospitals should conduct regular monitoring and evaluation of nurses' preparedness. This can be done through audits, surveys, and disaster simulations that are held periodically. The results of this evaluation can be used to identify areas that need improvement and develop more effective improvement strategies.

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