Nurse decision making in the emergency room: a concept analysis review

Saharuddin Saharuddin, Elly Nurachmah, Masfuri Masfuri, Dewi Gayatri

Abstract The development of decision-making models for emergencies is critical because emergencies can occur anytime and anywhere. This is because this situation requires quick and appropriate action. The purpose of this concept analysis is to analyze and clarify the concept of decision makers in the scope of emergencies and develop an operational definition of the concepts of decision makers, attributes, antecedents, and consequences. The method used is the concept analysis approach of Walker and Avant. The results of the analysis show that the attributes of the concept of decision-making include the process of managing resources to ensure effectiveness and security. This management process uses appropriate and effective procedures in accordance with standards, and the values that exist in society refer to human needs to achieve common goals. Antecedents for decision-making include used cases and technology. The consequences of decision-making include positive impacts such as readiness, experience, responsibility, and action according to emergency procedures. This analysis helps nurses understand concepts and make action decisions in the emergency room. It is recommended that nurses be aware of the characteristics of the situation and the technology used as a guide in performing such actions. More research is needed to analyze the needs needed in the decision-making of nurses' activities in the emergency room.

Keywords: nurse, decision making, emergency

1. Introduction

Emergencies can occur due to natural disasters, accidents, or terrorist attacks that can take a person to a situation between life and death. Emergencies can also arise in the environment around us, such as at work, at school, or at home. In these situations, the ability to make the right decisions can determine success and failure in handling such emergencies (Khan et al., 2018). One of the most frequent examples of emergencies is trauma. Traumatic injuries are the leading cause of death internationally. More than 5 million people die each year from injuries, accounting for 9% of injury deaths from traffic injuries. The following causes are intentional injuries, suicides, and falls. Injuries account for 6% of all trauma and recorded cases. Therefore, the ideal intervention is injury prevention. Traffic accidents are the leading cause of injury. In terms of where they occur, homes and surrounding neighborhoods are the most likely to occur (44.7%), followed by highways (31.4%). Decision-making steps establish actions not only to improve postinjury trauma care but also to minimize frequent deaths and records (Bell et al., 2014; Kementrian kesehatan, 2018; World Health Organization, 2014).

Prompt and precise treatment from prehospital (basic and intermediate-level facilities) to intrahospital (advanced) care by nurses is critical for preventing records and deaths (Kotwal et al., 2011). Therefore, nurses are required to have competence in handling emergency problems. One of the efforts to improve competence is carried out through training. Extrapolating from experience, training, and focusing on managing causes and making appropriate decisions can prevent and reduce deaths from traumatic injuries (Kotwal et al., 2011).

In recent years, technology has helped improve emergency decision-making capabilities with decision support systems and other technologies that can help speed up response times, collect data, and provide accurate information. However, the development of decision-making models for emergencies must continue to be carried out to improve the ability and readiness to handle emergencies quickly and precisely (Antoniotti et al., 2014; Khan et al., 2018). Currently, standard curriculum development still rarely includes decision-making to determine emergency management actions for patient safety. Therefore, the purpose of this study is to analyze the concept of decision making in emergencies.

2. Methods

Concept analysis involves planning to identify the characteristics of a concept. The purpose of concept analysis is to clarify the use and help identify the phenomenon and everything that underlies the phenomenon (Hou et al., 2021). The concept analysis approach includes selecting concepts, determining the purpose of analysis, identifying the use of concepts,
determining the characteristics of the analyzed concepts, identifying case models, case limitations and characteristics, identifying events and their consequences, and defining theories empirically. The purpose of this concept analysis is to clarify the concept of decision-making, develop an operational definition of the concept, identify the use of the concept in all disciplines, and provide explanations that will guide further research. To gain a comprehensive understanding of the concepts related to emergency decision-making, this literature review was conducted through several databases, namely, PubMed, EBSCOhost, Science Direct, and Google Scholar. Eight studies were obtained and analyzed to determine concept problems related to the term “decision-making”. The literature sources used in the study included journal articles published from 2012 to 2022. The search keywords used were “nurse”, “decision making”, and “emergency room”.

3. Results and Discussion

3.1. Attribute definition

The way to determine attributes is to identify words that often appear from all definitions in Table 1. Some attributes that arise and can be attributes of the concept of decision-making are the process of managing resources to ensure effectiveness and security in accordance with appropriate procedures and effectively in accordance with standards, as well as values that exist in society in accordance with human needs to achieve common goals. Thus, the operational definition of the concept of decision-making is the process of managing resources to ensure effectiveness and security in accordance with appropriate and adequate procedures based on standards, as well as values that exist in society in accordance with human needs to achieve common goals.

<table>
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<th>No.</th>
<th>Definition</th>
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<td>1.</td>
<td>In management science, decision-making is an integral part of organizational management. Using a step-by-step decision-making process can help you make more deliberate and thoughtful decisions by organizing relevant information and determining alternatives.</td>
<td>Management</td>
<td>(Panpatte, S., &amp; Takale, V., 2019).</td>
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<td>2.</td>
<td>Pengambilan keputusan sering dikaitkan dengan proses alokasi sumber daya yang terbatas untuk memenuhi kebutuhan manusia dan memaksimalkan keuntungan. Decision-making in the political field is also related to efforts to achieve political goals, such as creating political stability, maintaining national security, improving the economy, and advancing public welfare. In addition, political decision-making is also related to the management of state resources, such as budget, infrastructure, and environment. Conduct careful analysis before making important decisions that have a broad impact on society and the country.</td>
<td>Economy</td>
<td>(Mintzberg, 2014)</td>
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<td>3.</td>
<td>Decision-making in the health field involves appropriate medication interventions to address one’s health problems. This involves a variety of factors, such as the collection and assessment of information, the selection of appropriate resources, and ethical and value considerations. This can include choosing the type of drug, the correct dosage, the use of medical devices, and others.</td>
<td>Politics</td>
<td>(Hermann, 2002)</td>
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<td>4.</td>
<td>The process is complex and essential to ensure that the interventions provided conform to appropriate and practical standards. In decision-making, nurses also need to consider ethics and laws in nursing practice, such as</td>
<td>Health</td>
<td>(Elwyn et al., 2012)</td>
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<td>5.</td>
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<td>Nursing</td>
<td>(Nibbelink &amp; Brewer, 2016)</td>
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the patient's right to obtain information and the patient's autonomy in choosing care.

Drug effectiveness and safety, availability of raw materials, government regulation, production costs, and market demand. In decision-making, several things that must be considered are clinical trials, government regulations, production costs, market demand, availability of raw materials, and innovation.

Sociocultural decision-making involves many complex and diverse factors, such as cultural values, beliefs, social norms, and political and economic influences. Some of the factors to consider in decision-making in the sociocultural field are social values and norms, social engagement and participation, social impact analysis, and social and political context analysis.

The religious decision-making process is usually considered to require a specific theological commitment both for its successful use and for a reasonable explanation because it can affect the beliefs, practices, and values held by society.

Decision-making in an individual or group, such as choosing the type of art organizing cultural events that are in accordance with the needs, and mutual benefits between groups.

3.2. Identify emergency decision-making cases

3.2.1. Model case

A nurse was in a secluded area. When he went to the health center, he saw the victim of a hit-and-run accident. The patient's condition fainted, and she was thrown 1 meter away. In that incident, the nurse checked the pulse at 50x/min and the pressure at 100/60 mmHg. Nurses are confused about taking action according to standard procedures. He performed first aid based on the training experiences and learnings he remembered. The patient's bleeding was covered with a cloth around him, but he forgot how to fix the patient's neck. He also asked for help from others to take him immediately to the health center. After arriving at the health center, the nurse shared her experience with her friend. Finally, he was told that he should adhere to standard emergency work guidelines that are easy to carry anywhere or download. To ensure that nurses can easily make the right action decisions in emergency conditions, nurses can also use the development of the model according to needs, can be accepted in the community, and can achieve common goals.

3.2.2. Borderline Cases

A nurse named Ns. M is being assigned to Puskesmas X. The patient comes in and has open bleeding. The patient complained of an open wound, pain, and swelling in the left ankle after a 15-minute traffic accident (SMRS), with an open medical diagnosis of a distal 1/3 tibia sinistra fracture: Compos mentis consciousness level, GCS E4 V5 M6, spontaneous breathing, and respiration 20 times per minute. The capillaries were refilled for < 2 seconds, the blood pressure was 120/90 mmHg, the radial or carotid pulse was 88 times per minute, and a warm acral was used. The patient said that initially, the patient, who worked as a private employee, would go to work on a motorcycle. When he arrived at an intersection suddenly, another vehicle came from the patient's right and immediately hit him. Finally, he headed to the nearest health center. Nurses (Ns M) have also downloaded the emergency curriculum model application to implement actions according to standard procedures. However, the internet network in place is less stable, so the application is difficult to open—finally, Ns. M also screenshots the material in the application to improve his knowledge, attitudes, and skills in making emergency action decisions. He or she uses the development of the model as needed, can be accepted in society and can achieve common goals.

3.2.3. Contrary Cases
A nurse was assigned to Puskesmas X. The patient complained of pain in the right hip after falling 1 hour before arriving at the hospital. There was no history of unconsciousness, nausea, or vomiting. TD: 120/70 mmHg, N: 84 x/min, Tx: 36.5, CRR: 18 x/min. Right pelvic region edema (+) around the pelvis, bruising (-), deformity (+) external rotation, shortening, tenderness (+) around the pelvis, palpable dorsalis pedis artery (+), CRT< 2", SpO2 99%, sensation (+) normal. The nurse then performs emergency measures such as wrapping splints; she finds many methods that can be used under emergency conditions. Finally, the nurse acts according to experience and can be accepted by the community. After that, he also tried to find references. However, when they found the module, the nurse was confused about which one to use. Thus, he needs direct training and uses emergency curriculum modules or applications.

3.3. Antecedents and consequences of emergency decision-making

3.3.1. Antecedents

Antecedents are elements or events that should exist before a concept can occur (Hou et al., 2021). Identified types of antecedents in the concept of decision-makers related to needs involve factors such as use cases and technology (Antoniotti et al., 2014). The implementation of the emergency curriculum can be performed online through an e-learning platform. Training materials can be presented in the form of videos, presentation slides, or even interactive simulations. Trainees can access these materials anytime and anywhere, resulting in increased training flexibility and efficiency. In addition, the technology can be used to provide real-time training in an environment that resembles an emergency in a hospital. Trainees can experience real emergencies and learn how to handle those situations head-on (Chandran et al., 2022; Sinclair et al., 2012).

3.3.2. Consequences

Consequences are events that result from various concepts, such as increasing the service effectiveness and efficiency of emergency services. Decision-making in emergencies often involves limited time and limited information. Nonetheless, good training, a deep understanding of emergency procedures, and adequate preparedness can help reduce the risk of adverse consequences and increase the likelihood of effective decision-making (Alexander, 2013; Appleby-Arnold et al., 2021; Sinclair et al., 2012).

3.4. Empirical Referent

An empirical referent is expressed in the form of real-world facts of a concept (Appleby-Arnold et al., 2021) The existence of a standard curriculum in emergency management is crucial for patient safety because nurses can make decisions to take action based on procedures. Curriculum development is already underway in parts of Africa (Scott & Brysiewicz, 2016). One of the efforts that can be developed is the mobile learning program that has been carried out in Taiwan. Mobile learning involves training on the application of an emergency curriculum through a mobile application that can be accessed from a smartphone or tablet. Training materials can be presented in text or podcast form, and trainees can access them flexibly anytime and anywhere (Hong et al., 2022)

5. Final considerations

The concept of decision-making in the resource management process aims to ensure effectiveness and security in accordance with appropriate procedures. It refers to standards, as well as values, that exist in society to meet human needs and achieve common goals. The antecedents of decision-making concepts involve factors such as use cases and technology. The consequences can have a positive influence on emergency actions, such as readiness, experience, responsibility, and action
according to procedures. Therefore, the analysis of this concept is expected to increase the knowledge and motivation to conduct development and research related to emergency decision-making through the application of this concept.

Ethical considerations
Not applicable.

Conflict of Interest
The authors declare no conflicts of interest.

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References