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Emergency Nurses' Perceptions of Disaster Core Competencies and Triage Decision-Making: A Correlational Study

Esraa Mohammed Soltan[1] & Heba Mostafa Ali Taha[2]
[1.] Lecturer of Nursing Administration, Faculty of Nursing, Suez Canal University, Egypt.
[2.] Lecturer of Nursing Administration, Faculty of Nursing, Assiut University, Egypt.

Abstract:
Background: Emergency nurses play a crucial role in disaster response, requiring specific competencies for effective triage decision-making. **Aim:** This study aimed to assess the relationship between emergency nurses' perceptions of disaster core competencies and triage decision-making at Assiut University Hospitals. **Design:** The study employed a descriptive correlational design. **Setting:** The study took place at Assiut University Hospitals. **Participants:** One hundred fifty-three emergency nurses participated in the study. **Methods:** Data were collected using the Nurses' Perceptions of Disaster Core Competencies Scale and the Triage Decision-Making Inventory. **Results:** A half (50.3 %) of emergency nurses perceived a moderate level of disaster core competencies, with technical skills scoring the highest mean (48.12 ± 13.2). Two-thirds (66.7%) perceived high triage decision-making abilities, with cognitive abilities scoring highest mean (65.1 ± 14.87). **Conclusion:** A significant positive correlation was found between disaster core competencies and triage decision-making. **Recommendations:** Developing and implementing structured training programs for disaster management that specifically address areas where nurses demonstrated lower competencies, particularly special diagnostic skills.

Keywords: Disaster core competencies, Emergency nurses & Triage decision-making.

Introduction:
The rising frequency and intensity of global disasters have underscored the urgent need for nurses to be thoroughly prepared to respond effectively in such critical situations. Nurses constitute the largest segment of the healthcare workforce and play a pivotal role in disaster management. Among them, emergency nurses are particularly essential during disaster response, as they are often the first healthcare providers on the scene. Their ability to rapidly assess evolving situations, efficiently triage patients, and collaborate with multidisciplinary teams is vital to ensuring timely and effective care delivery **(Aljohani et al., 2022; CNI College, 2024; Firouzkouhi et al., 2021; Olorunfemi & Adesunloye, 2024)**.

Nursing competencies broadly refer to the effective application of knowledge, skills, and judgment across various levels of nursing practice. Within this framework, disaster core competencies represent the specialized knowledge, skills, and abilities that healthcare professionals must possess to effectively manage and respond to disasters throughout all phases of disaster management—mitigation, preparedness, response, and recovery. For emergency nurses, these competencies include mastery of triage protocols, effective communication during emergencies, resource management under stress, strategic decision-making in high-pressure situations, and leadership and coordination within teams during critical times. These skills enable nurses to deliver comprehensive care to affected populations, reduce the harmful impacts of disasters, decrease mortality and complications, enhance public trust, and provide emotional support. Furthermore, disaster core competencies promote effective teamwork and coordinated efforts across healthcare organizations and emergency response agencies, which are crucial for successful disaster management **(Florida Department of Health, 2011; International Council of Nurses, 2019; Satoh et al., 2018)**.

Among these competencies, triage stands out as a fundamental responsibility of emergency nurses. Triage involves the rapid sorting and prioritization of patients to ensure that those with the most urgent needs receive timely care. This role becomes even more critical during disasters, where limited resources and a surge in patient volume present significant challenges. The triage process typically occurs in multiple phases. Primary triage involves the initial rapid assessment and sorting of casualties at the incident scene, focusing on identifying individuals who require immediate life-saving interventions and establishing treatment priorities. Secondary triage takes place upon arrival at healthcare facilities, where more detailed assessments refine treatment priorities and guide resource allocation. Some systems also implement tertiary triage to prioritize patients for specialized services such as surgery or intensive care. Each phase demands accurate and swift decision-

making to optimize patient outcomes and maintain the flow of care **(Bazyar, 2019; Sockeel et al., 2017)**. Triage decision-making is a complex and multifaceted clinical skill that greatly influences patient outcomes and the efficiency of emergency care delivery. Emergency nurses must make rapid evaluations and prioritize patients under conditions often marked by uncertainty, limited and ambiguous information, time constraints, and environmental challenges. These decisions depend not only on patients' presenting signs, symptoms, and diagnoses but also on the nurse's cognitive abilities, critical thinking, intuition, and clinical experience **(Alzahrani & Al-Moteri, 2022; Al Zamanan et al., 2022; Gorick, 2022; Oh & Jung, 2024; Schneider, 2019)**.

Emergency nurses integrate clinical judgment, professional collaboration, and adaptive reasoning to ensure effective patient prioritization. They rapidly assess patient acuity based on symptoms and vital signs, categorize patients using standardized protocols, and apply professional discretion in complex or ambiguous cases. Collaboration with healthcare team members helps refine decisions, particularly regarding resource allocation and ethical considerations. Simultaneously, nurses dynamically manage the emergency department environment to balance patient flow and resource availability. Experienced nurses often complement protocol-based decisions with heuristics and intuition developed through clinical exposure, especially when facing incomplete information or urgent time pressures. This combination enables triage nurses to make rapid, accurate decisions essential for maintaining patient safety, care quality, and effective emergency care delivery **(Melin-Johansson, 2017; Reay et al., 2024)**.

Significance of the Study:

Current healthcare systems encounter unexpected challenges in managing disasters, which makes understanding the relationship between disaster core competencies and triage decision-making increasingly crucial. Investigating how emergency nurses view their disaster core competencies sheds light on their preparedness and confidence for making triage decisions during emergencies, helping to identify training gaps and stressing the importance of appropriate educational interventions. This information is vital for fostering a culture of continuous improvement within nursing practice and enhancing the effectiveness of disaster response strategies **(Azizpour et al., 2022; Chegini et al., 2022; Labrague et al., 2018; Wang et al., 2023)**.

Previous research has not examined the relationship between these study variables, particularly in the context of Egypt. Assiut University hospitals were selected for this study due to their status as the largest healthcare center in Upper Egypt. Ultimately, by exploring the connection between emergency nurses' perceptions of disaster core competencies and their triage decision-making, we aim to devise strategies that enhance their skills, ensuring the delivery of high-quality care during critical situations. Therefore, the focus of this study is to assess the relationship between emergency nurses' perceptions of disaster core competencies and their triage decision-making at Assiut University Hospitals.

Aim of the Study:

This study aimed to assess the relationship between emergency nurses' perceptions of disaster core competencies and triage decision-making at Assiut University Hospitals through:

- Assessing emergency nurses' perceptions of disaster core competencies at Assiut University Hospitals.
- Assessing emergency nurses' triage decision-making at Assiut University Hospitals.
- Assessing the relationship between emergency nurses' perceptions of disaster core competencies and triage decision-making at Assiut University Hospitals.

Research Question:

Is there a relationship between emergency nurses' perceptions of disaster core competencies and triage decision-making at Assiut University Hospitals?

Subject and Method:

Technical Design

This design involves the research design, setting, subject, sample, and data collection tool.

Research Design:

A descriptive correlational study design was used.

Study Setting:

The study conducted at the emergency departments of Assiut University Hospitals, which include the following hospitals: Main, Pediatric, Women's Health, Psychiatric & Neurologic, Heart, Urology, and New Trauma. Each hospital in the study has one emergency department.

Subjects:

A sample composed of 153 nurses from all nurses who worked at the emergency departments of Assiut University Hospitals participated in the current study. There were 252 nurses distributed as follows: Main Hospital (93), Pediatric Hospital (29), Women's Health Hospital (10), Psychiatric & Neurologic Hospital (26), Heart Hospital (15), Urology Hospital (13), and New Trauma Hospital (66).

Sampling Technique:

A voluntary response convenient nonprobability sampling technique was used.

Sample Size:
Using Epi-info software, the minimal sample size is according to alpha 0.05, power (1-B) = 0.95, the effect size 0.3, and 5 degrees of freedom. Therefore, we calculated the study sample size at a 95 % confidence level. The sample was 153 nurses.

Tools of Data Collection:
Data were collected using two tools:

Tool (1): It is divided into two parts:

Part (1): Demographic Data Sheet:
It consisted of questions regarding the name of the working hospital, age, gender, marital status, qualification, and years of experience.

Part (2): Nurses' Perceptions of Disaster Core Competencies Scale (NPDCC):
It was developed by **Celik (2010)**. It was used to assess emergency nurses' attitudes toward disaster core competencies. It includes 45 items divided into five subscales: critical thinking abilities (4 items), specific diagnostic skills (6 items), general diagnostic skills (13 items), technical skills (14 items), and communication skills (8 items) (**Celik, 2010)**.

Scoring System:
The NPDCC is scored based on a 5-point Likert scale from 1 point (this has to be taught), 2 points (little experience in the skill area), 3 points (some experience in the skill area), 4 points (good experience in the skill area), to 5 points (I can do and teach it). A score of 1-2.33 was deemed low proficiency, a score of 2.34-3.66 was considered moderate competency, and a score greater than 3.66 was considered high competency **(Taskiran & Baykal, 2019)**.

Tool (2): Triage Decision-Making Inventory (TDMI):
It was developed by **Smith & Cone (2010)**. It was used to evaluate emergency nurses' triage decisions. The questionnaire had 27 items and three subscales: cognitive abilities (14 questions), experience (6 questions), and intuition (7 questions) intended for nurses who work in various therapeutic settings. and reliability (**Smith & Cone, 2010)**.

Scoring System:
The TDMI is scored on a 6-point Likert scale from 1 (strongly disagree), 2 (moderately disagree), 3 (minimally disagree), 4 (minimally agree), 5 (moderately agree), to 6 (strongly agree). The total summative score is 162 for the 27 items; from 27 to 69 is low-level triage decision-making, from 70 to 118 is moderate-level triage decision-making, and from 119 to 162 is high-level triage decision-making **(Smith, 2012)**.

Tools Validity:
The NPDCC is a valid instrument (**Celik, 2010)**. The TDMI has good validity (**Smith & Cone, 2010)**. For the current study, both instruments were translated into Arabic following a rigorous translation. To ensure cultural and linguistic appropriateness, a jury of five nursing experts from the Nursing Administration and Community Health Nursing departments at Assiut University reviewed the translated questionnaires. The jury confirmed that the instruments were comprehensible and appropriate for the target population without requiring further modifications, supporting their content validity in this context.

Tools Reliability:
The NPDCC is recognized as a reliable tool **(Celik, 2010)**. In the current study, the scale demonstrated good internal consistency, with a Cronbach's alpha coefficient of 0.85. The TDMI also exhibited strong reliability in its original validation **(Smith & Cone, 2010)**, and in this study, it achieved a high Cronbach's alpha of 0.95, indicating excellent reliability.

Administrative Design:
Official permission was obtained from the directors of the Assiut University Hospitals and the dean of the Nursing Faculty at Assiut University, nursing directors, and nurses in emergency departments by explaining to nurses the purpose of the study and asking them for their electronic informed consent to participate.

Operational Design:

Preparatory Phase:
The research proposal was completed after an examination of the pertinent academic literature on the subject, which took place between the beginning of February 2025 and the end of February 2025. It was done to translate the research tool into Arabic.

Ethical Considerations:
The study received approval from the Ethical Committee at the Faculty of Nursing, Assiut University **(**1120251004), and followed conventional ethical standards in clinical research. Before starting the study, we obtained the participants' electronic written informed consent. They had the freedom to withdraw from the study at any stage, with assurances of confidentiality, anonymity, and privacy during data collection. The data collected was strictly utilized for research purposes.

Pilot Study:
Prior to data collection, a pilot study was conducted with 15 nurses (10 %) from the sample size. They weren't included in the sample. The pilot study was carried out to assess the tool's clarity, usefulness, and viability, as well as to identify any impediments and problems. Its goal was to estimate the time required for data collecting. No modifications were done based on the pilot study.

Fieldwork:
Data were collected in March and April 2025 using Google Forms. After presenting participants with an explanation of the study's purpose, goals, and objectives, researchers issued links to the electronic informed consent form and questionnaire. Throughout the process, the researchers were ready to answer any participant queries or concerns. The nurses needed 20–30 minutes to complete the questions.

Data Analysis:
Data were analyzed using IBM SPSS Statistics (Version 28.0). Descriptive statistics, including frequencies, percentages, means, and standard deviations, were calculated to describe the demographic characteristics and the levels of disaster core competencies and triage decision-making among emergency nurses. Mean percentage scores were calculated to facilitate comparison between different dimensions of the scales. Pearson's correlation coefficient was used to determine the relationship between disaster core competencies and triage decision-making. Statistical significance was set at $p < 0.05$.

Results

Table (1): Distribution of emergency nurses according to their demographic characteristics who working at Assiut University Hospitals (n=153)

	No	%
Hospital Name		
Heart Hospital	9	5.9
Main Hospital	56	**36.6**
Urology Hospital	8	5.2
Pediatric Hospital	18	11.8
Neurologic Hospital	16	10.5
Women Health Hospital	6	3.9
New Trauma hospital	40	26.1
Age		
19-25 years	63	**41.2**
25-30 years	63	**41.2**
30-40 years	27	17.6
Gender		
Male	45	29.4
Female	108	**70.6**
Experience year		
1-10 years	127	**83.0**
10-20 years	20	13.1
20-30 years	6	3.9
Qualification		
Secondary School Diploma Nursing	106	**69.3**
Bachelor Degree in Nursing	47	30.7
Marital Status		
Single	94	**61.4**
Married	58	37.9
Divorced/Widow	1	.7

Table (2): Mean scores of disaster core competencies as reported by emergency nurses working at Assiut University Hospitals (n=153)

Descriptive Statistics	Max Score	Mean ± SD	Range	Mean %
Critical thinking skills	20	12.46 ± 4.01	4-20	62.29
Special Diagnostic Skills	30	17.51 ± 5.56	6-29	58.37
General diagnostic skills	65	40.61 ± 11.98	13-65	62.47
Technical Skills	70	**48.12 ± 13.2**	14-70	68.75
Communication Skills	40	25.41 ± 7.79	8-40	63.51
Disaster Core Competencies	**225**	**144.1 ± 38.6**	**45-217**	**64.05**

Table (3): Mean scores of triage decision-making as reported by emergency nurses working at Assiut University Hospitals (n=153).

Descriptive Statistics	Max Score	Mean ± SD	Range	Mean %
Cognitive abilities	84	**65.1 ± 14.87**	14-84	77.50
Experience	36	26.5 ± 5.89	6-36	73.62
Intuition	42	30.22 ± 7.82	7-42	71.94
Triage Decision Making	**162**	**121.82 ± 25.36**	**27-162**	**75.20**

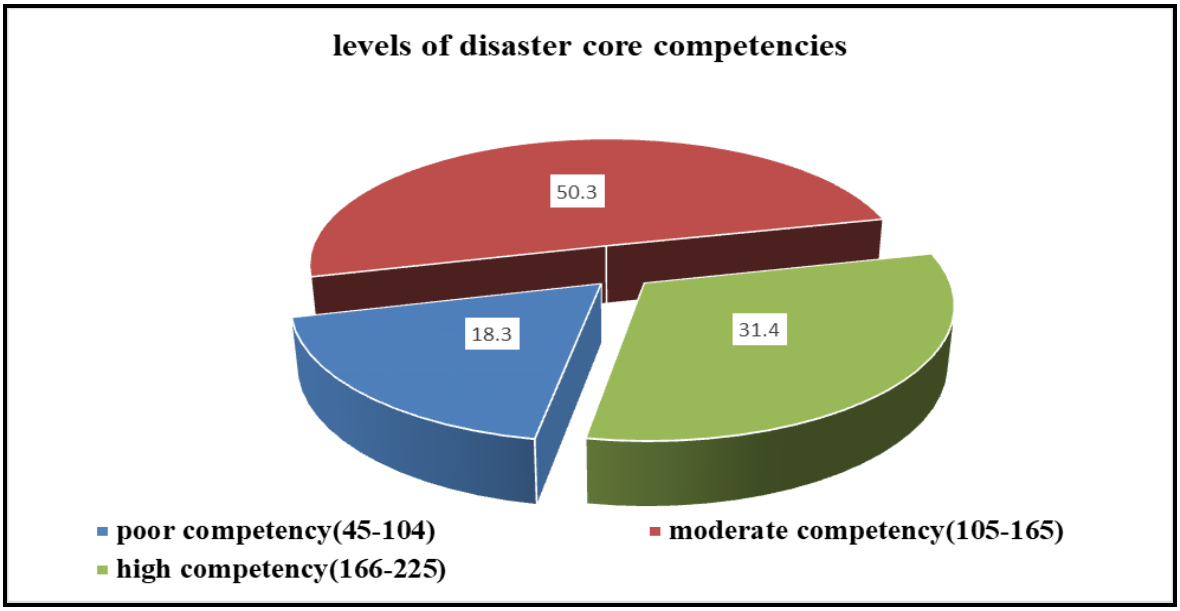

Figure (1): Disaster core competencies levels as perceived by emergency nurses working at Assiut University Hospitals (n = 153).

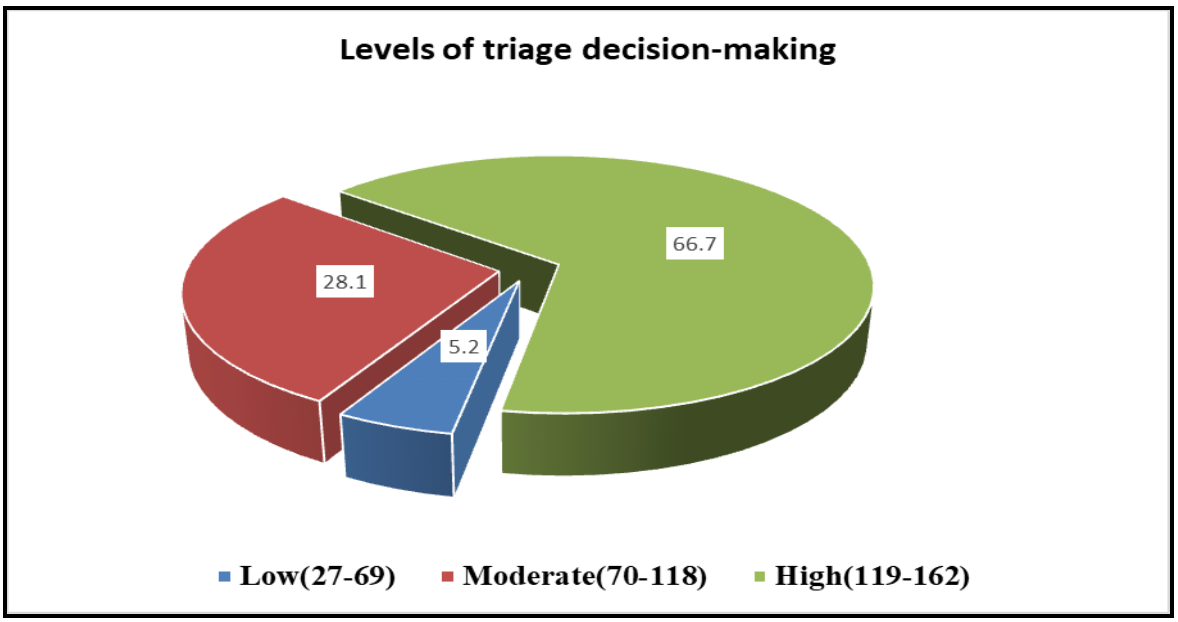

Figure (2): Triage decision-making levels as perceived by emergency nurses working at Assiut University Hospitals (n = 153)

Table (4): Correlation Co-efficient between disaster core competencies and triage decision-making as reported by emergency nurses working at Assiut University Hospitals (n=153).

Correlations		A1	A2	A3	A4	A5	A6	A7	A8	A9	A10
critical thinking skills (A1)	r	1									
	P										
Special Diagnostic Skills (A2)	r	.787**	1								
	P	0.000									
general diagnostic skills (A3)	r	.711**	.797**	1							
	P	0.000	0.000								
Technical Skills (A4)	r	.666**	.728**	.826**	1						
	P	0.000	0.000	0.000							
Communication Skills (A5)	r	.634**	.702**	.789**	.819**	1					
	P	0.000	0.000	0.000	0.000						
Nurses' Perceptions of Disaster Core Competencies Scale (A6)	r	.794**	.864**	.941**	.938**	.894**	1				
	P	0.000	0.000	0.000	0.000	0.000					
Cognitive abilities (A7)	r	.563**	.528**	.555**	.605**	.520**	.619**	1			
	P	0.000	0.000	0.000	0.000	0.000	0.000				
Experience(A8)	r	.393**	.432**	.374**	.469**	.421**	.464**	.757**	1		
	P	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
Intuition (A9)	r	.264**	.323**	.261**	.383**	.272**	.341**	.543**	.722**	1	
	P	0.001	0.000	0.001	0.000	0.001	0.000	0.000	0.000		
Triage Decision Making Inventory (TDMI) (A10)	r	.503**	.510**	.493**	.582**	.487**	.576**	.930**	.899**	.795**	1
	P	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

Table (1): Illustrates that the majority (83 %) of emergency nurses in this study have 1–10 years of experience, 70.6 % of them were female, 61.4 % of them were single, 41.2 % of them were aged 19 to less than 30 years old, and 36.6 % of them were working at Main Assiut University Hospital.

Table (2): Illustrates that the highest mean score regarding the dimensions of disaster core competencies is related to technical skills (48.12 ± 13.2), with a total mean score of 144.1 ± 38.6.

Table (3): Demonstrate that the highest mean score regarding triage decision-making dimensions is related to cognitive abilities **(65.1 ± 14.87)** with a total mean score of 121.82 ± 25.36.

Figure (1): Reveals that a half of emergency nurses perceived a moderate level of disaster core competencies **(50.3 %)**, while only 18.3 % of them perceived a low disaster core competencies level.

Figure (2): Shows that more than two thirds **(66.7 %)** of emergency nurses perceived high triage decision-making levels, while only 5.2 % of them perceived low triage decision-making levels

Table (4): Reveals that there a positive correlation and highly statistical significant relation between emergency nurses' perceptions of disaster core competencies and triage decision-making (r = 0.576**).

Discussion:

The discussion of the obtained results was framed in the context of existing literature. Healthcare workers across various service sectors are vital assets for any nation during disasters; they play a crucial role in executing disaster response plans. The preparedness and expertise of frontline professionals, particularly emergency nurses, are critical for delivering quality care and reducing the risk of complications and mortality **(Murphy et al., 2021)**. Emergency nurses serve as the initial responders in crises, handling everything from major disasters to minor injuries and illnesses. Their responsibilities during emergencies encompass responding to urgent situations, identifying risks, mitigating or preventing injuries, managing incidents on-site, overseeing and distributing medical supplies, and carrying out mass care, triage, and emergency interventions **(Beyramijam et al., 2021)**.

The current study began by examining the ages, genders, qualifications, marital statuses, and years of experience of emergency nurses. The results indicated that the demographic profile predominantly consists

of young, single female nurses who are in the early stages of their careers. These younger, single nurses may possess greater flexibility and a willingness to work in high-stress environments typical of emergency departments, making them more adaptable to the physically and mentally challenging nature of emergency nursing.

The study showed that the best average score for disaster core competencies was linked to technical skills. This finding emphasizes the importance of technical skills in disaster management for effective response and recovery. Areas such as emergency medical services and rescue operations are crucial, suggesting that many technical roles within disaster management require specific expertise. Consequently, nurses may find themselves more engaged in these areas due to their relevance to their daily duties, resulting in higher competency scores.

These findings align with the research of **Westman et al. (2024),** who affirmed that technical skills are vital for disaster responders, as they significantly influence the effectiveness of emergency response efforts. Similarly, a study by **Ghaljeh et al. (2024)** on operating room technologists highlighted that preparedness and knowledge are essential, with technical skills forming a key component of their training and response abilities.

In contrast, a study done by **Wong & Saraih (2024)** indicated that non-technical skills, such as interpersonal competencies, are equally important for improving overall disaster response efficacy, highlighting the necessity for a well-rounded approach in training programs. Additionally, a comparative study between developing and developed countries underscores the need for skills development in disaster management, illustrating that while technical skills are important, their training may not be equally effective across various contexts **(Ngo-Henha & Mbandlwa, 2024).**

According to the findings of the current study, the highest average score in triage decision-making dimensions pertains to cognitive abilities. This emphasis on cognitive abilities may be attributed to the need for swift and effective decision-making in high-pressure situations, particularly during disasters. Skills such as critical thinking, analytical reasoning, and logical assessment are crucial for evaluating the urgency and severity of medical conditions and for determining the appropriate patient care level.

These findings are supported by a study analyzing decision-making competence, which found that general intelligence is consistently a strong predictor of decision-making skills, with numeracy also contributing independently. This result correlates with the notion that cognitive abilities are fundamental to complex decision-making tasks, including triage **(Skagerlund et al., 2021)**. Similarly, **Tutić et al. (2022)**, who used Greene's dual-process model (type 1: intuitive, type 2: cognitive reflective), suggested that cognitive reflection (a type 2 process) is associated with more utilitarian decision-making in triage situations, implying that greater cognitive effort leads to improved accuracy in prioritization.

A study conducted in Saudi Arabia on COVID-19 triage preparedness revealed that critical thinking (mean score: 65.1 ± 14.87) and confidence were rated higher than cognitive and intuition skills. This finding stands in stark contrast to the assertion that cognitive abilities are the primary determinants in triage decision-making dimensions **(Alzahrani & Al-Moteri, 2022)**.

When examining the perception of core disaster competencies among emergency nurses, a notable disparity emerges, with over half (50.3 %) reporting a moderate level of competency while only 18.3 % felt their competency was low. This may be due to many nurses having undergone basic disaster response training but lacking comprehensive experience or specialized education for managing complex disaster situations, which could lead to feelings of moderate preparedness. The unpredictable and high-pressure environment of disasters can also contribute to uncertainty, causing nurses to feel less confident in their abilities despite their training.

This aligns with a study by **Batı & Çelikkalp (2025)** conducted in Turkey, who found that nurses' disaster preparedness was shaped by their education, prior training, and psychological resilience, with many expressing a moderate level of preparedness. In contrast, a study by **Abuzied et al. (2024)** indicated that a significant portion of nurses reported having an unsatisfactory level of knowledge and practice related to disaster preparedness, highlighting the need for enhanced training programs. Furthermore, a study by **Bahlail et al. (2024)** in Indonesia found that nurses exhibited a high level of preparedness in disaster management, achieving a mean score of 246.52 in assessing core competencies in disaster nursing at a general hospital located in coastal areas.

Additionally, the current study reveals that over two-thirds of emergency nurses (66.7 %) perceive their triage decision-making skills as high, while only 5.2 % consider them low. This finding may be attributed to the extensive training and hands-on experience that many emergency nurses receive in triage processes. Such practical training equips them with the necessary skills to quickly assess and prioritize patients in high-pressure environments, which, in turn, boosts their confidence in their abilities. Furthermore, emergency departments usually have established triage protocols and guidelines that nurses are trained to follow.

Similar findings were reported by **Yang & Kim (2022),** who indicated that a study of 166 emergency nurses in South Korea found that problem-solving confidence and strategic foresight were significant predictors of disaster triage capability. Nurses who received triage training scored higher, indicating that specific competencies can improve decision-making under stress.

However, some studies have pointed out that many nurses still lack sufficient knowledge and skills related to disaster preparedness, which could undermine effective triage decision-making **(Atia et al., 2024)**. This emphasizes the importance of ongoing training and education to close the competency gap.

In contrast, findings from **Mushtaq et al. (2024)** showed that 35.3 % of nurses reported low knowledge, 16 % had moderate knowledge, and 34 % demonstrated high knowledge regarding triage. In terms of practice, 54 % of participants showed poor adherence to triage protocols, while 46 % exhibited good practices, which may negatively influence their decision-making abilities.

The study found a positive correlation between emergency nurses' perceptions of disaster core competencies and triage decision-making. The result may be due to that as nurses' competence in disaster response increases, so does their ability to make effective triage decisions. Rapid assessment, prioritization, and decision-making skills are essential for disaster response, as well as triage.

The current study is supported by **Azizpour et al. (2022)** who found a substantial positive relationship between disaster preparedness awareness (a core competency) and triage decision-making skills. Regression analysis identified triage decision-making as a predictor of preparedness knowledge, along with age, training, and catastrophe experience, and they noted that nurses with greater disaster readiness scores had better triage accuracy, lowering the probability of secondary disasters.

Research in Turkey by **Şermet Kaya & Erdoğan, (2024)** found that nurses' disaster management competency significantly impacted their preparedness and triage capabilities. A cross-sectional study in South Korea found that perceived triage competency mediates the relationship between triage proficiency and overall emergency nursing competency, reinforcing the findings.

Limitations of the Study:

The study's limitations include that the descriptive correlational design establishes relationships but cannot determine causality between disaster core competencies and triage decision-making abilities. The cross-sectional design of the study only captures a single point in time, failing to track advancements or modifications over time. Additionally, the sample's generalizability to other healthcare settings or regions was limited because it was drawn from a single university hospital system (Assiut University Hospitals).

Conclusion:

Emergency nurses demonstrate a moderate level of disaster core competencies, particularly in their technical skills. More than two-thirds of the individuals reported strong triage decision-making skills, particularly in their cognitive skills. There is a significant positive correlation between emergency nurses' disaster core competencies and their ability to make triage decisions. This correlation shows that improving nurses' disaster management skills may help them make better triage decisions during emergencies.

Recommendations:

Based on the findings of the current study, it is recommended to

- Develop and implement organized training programs for disaster management tailored to the needs of emergency nurses at Assiut University Hospitals. These programs should include modules focusing specifically on enhancing special diagnostic skills, which were identified as an area of lower competency. Training should combine theoretical instruction with hands-on simulation exercises to ensure both understanding and application.
- Integrate regular disaster simulation drills into the continuing education curriculum for emergency nurses. These drills should mimic realistic disaster scenarios, incorporating mass casualty events, limited resource availability, and rapid triage situations to help nurses build competence and confidence in real-time decision-making.
- Establish mentorship and peer learning programs within the emergency departments. Experienced nurses with strong disaster response backgrounds should be paired with less experienced colleagues to provide guidance, share best practices, and foster a supportive learning environment.
- Develop and regularly update comprehensive disaster response protocols and policies, ensuring they are accessible and well-communicated to all nursing staff. Training sessions should be held to familiarize staff with these protocols, and updates should be provided during staff meetings or through internal communication systems.
- Implement a periodic competency assessment system for disaster preparedness. These assessments should evaluate each domain of disaster core

competencies and triage decision-making to track progress, identify training needs, and reinforce accountability for continuous improvement.

- Conduct further studies to investigate the longitudinal impact of disaster preparedness training on nurses' performance in real disaster situations. Additionally, research should explore the effectiveness of different educational strategies (e.g., simulation-based learning vs. traditional lectures) on improving core competencies and triage accuracy. Expanding the study to include other hospitals in Egypt or different healthcare professionals would also enhance generalizability and provide a more comprehensive understanding of interdisciplinary disaster response.

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