Lukman

Tes Similarity

Tes Similarity

Tes Similarity

Politeknik Kesehatan Kemenkes Palembang

Document Details

Submission ID

trn:oid:::1:3146402422

Submission Date

Feb 5, 2025, 10:13 AM GMT+7

Download Date

Feb 5, 2025, 10:30 AM GMT+7

File Name

110275-Article_Text-463750-1-10-20250129.pdf

File Size

1.3 MB

13 Pages

7,354 Words

43,517 Characters

5% Overall Similarity

The combined total of all matches, including overlapping sources, for each database.

Filtered from the Report

- Bibliography
- Quoted Text
- Cited Text
- Small Matches (less than 20 words)
- Submitted works
- Publications

Exclusions

- 2 Excluded Matches

Match Groups

9 Not Cited or Quoted 5%
Matches with neither in-text citation nor quotation marks

0 Missing Quotations 0%
Matches that are still very similar to source material

0 Missing Citation 0%
Matches that have quotation marks, but no in-text citation

0 Cited and Quoted 0%
Matches with in-text citation present, but no quotation marks

Top Sources

5% Internet sources
0% Publications
0% Submitted works (Student Papers)

Integrity Flags

1 Integrity Flag for Review

Hidden Text
226 suspect characters on 1 page
Text is altered to blend into the white background of the document.

Our system's algorithms look deeply at a document for any inconsistencies that would set it apart from a normal submission. If we notice something strange, we flag it for you to review.

A Flag is not necessarily an indicator of a problem. However, we'd recommend you focus your attention there for further review.

Match Groups

- **9** Not Cited or Quoted 5%
  Matches with neither in-text citation nor quotation marks
- **0** Missing Quotations 0%
  Matches that are still very similar to source material
- **0** Missing Citation 0%
  Matches that have quotation marks, but no in-text citation
- **0** Cited and Quoted 0%
  Matches with in-text citation present, but no quotation marks

Top Sources

5% Internet sources
0% Publications
0% Submitted works (Student Papers)

Top Sources

The sources with the highest number of matches within the submission. Overlapping sources will not be displayed.

1	Internet	doaj.org 2%
2	Internet	www.science.gov <1%
3	Internet	www.ncbi.nlm.nih.gov <1%
4	Internet	www.mdpi.com <1%
5	Internet	recyt.fecyt.es <1%
6	Internet	onlinelibrary.wiley.com <1%

Retos (Madrid Nuevo Retos Directivos), 2026, 63, 482-495 ISSN:1579-1726, el SSN: 1988-2041 https://recyt.fecyt.es/index.php/retos/index

Training activity in improving emergency skill for healthcare workers: a systematic review assisted with Rstudio

Actividad de capacitación para mejorar las habilidades de emergencia de los trabajadores de la salud: una revisión sistemática con la ayuda de Rstudio

Authors

Lukman[1]
Jhon Feri[1]
Siti Romadoni[2]
Nurna Ningsih[3]
Nadi Aprilyadi[1]

[1]Poltekkes Kemenkes Palembang
[2]Institut Ilmu Kesehatan dan Teknologi Muhammadiyah Palembang
[3]Universitas Sriwijaya

Corresponding author:
lukman@poltekkespalembang.ac.id

How to cite in APA

Lukman, L., Feri, J., Romadoni, S., Ningsih, N., & Aprilyadi, N. (2025). Training activity in improving emergency skill for healthcare workers: a systematic review assisted with Rstudio. *Retos*, *63*, 482–495. https://doi.org/10.47197/retos.v63.110275

Abstract

Background: This study analyzed an emergency situation that requires immediate action by a doctor. Emergencies can occur anywhere, such as in hospitals, ambulances, even on the battlefield. Emergencies require doctors to have appropriate competence in order to treat patients quickly and appropriately. Apart from that, patient care is often found to be less than optimal. To deal with this problem, action is certainly needed so that patients can get maximum treatment.
Method: This research is a literature review from the results of Web of Science, SCOPUS, and Google Scholar searches on research studies on emergency care published from 2021 to 2024. The data source was obtained from the Scopus database. The collected data is then exported to a text file in CSV form for further analysis with the help of the Rstudio Package, which includes networking and Biblioshiny visualization.
Results: The results showed that many literatures explain the solution to overcoming problems in dealing with emergencies is by training, hands-on practice, and the application of various learning models to prepare nursing students to deal with patients in emergencies. for example, training to deal with patients with chest pain, heart attacks, and treating patients who are in conflict areas. learning methods that can be applied in learning include Basic Emergency Cource (BEC) which can increase student knowledge and confidence when managing emergency conditions, and Evidence-based practice can increase student self-efficacy, attitudes, and behavior in dealing with emergency patients.

Keywords

Nurses' capacity; physical activity-based; treatment emergency.

Resumen

Antecedentes: Este estudio analizó una situación de emergencia que requiere la acción inmediata de un médico. Las emergencias pueden ocurrir en cualquier lugar, como en hospitales, ambulancias e incluso en el campo de batalla. Las emergencias requieren que los médicos tengan la competencia adecuada para tratar a los pacientes de forma rápida y adecuada. Aparte de eso, la atención al paciente a menudo resulta ser menos que óptima. Para abordar este problema, sin duda es necesario actuar para que los pacientes puedan recibir el máximo tratamiento.
Método: Esta investigación es una revisión de la literatura a partir de los resultados de las búsquedas en Web of Science, SCOPUS y Google Scholar sobre estudios de investigación sobre atención de emergencia publicados entre 2021 y 2024. La fuente de datos se obtuvo de la base de datos Scopus. Luego, los datos recopilados se exportan a un archivo de texto en formato CSV para su posterior análisis con la ayuda del paquete Rstudio, que incluye redes y visualización Biblioshiny.
Resultados: Los resultados mostraron que muchas literaturas explican que la solución para superar los problemas en el tratamiento de emergencias es mediante la capacitación, la práctica práctica y la aplicación de varios modelos de aprendizaje para preparar a los estudiantes de enfermería para tratar con pacientes en emergencias. por ejemplo, la capacitación para tratar con pacientes con dolor en el pecho, ataques cardíacos y el tratamiento de pacientes que se encuentran en áreas de conflicto. Los métodos de aprendizaje que se pueden aplicar en el aprendizaje incluyen el Curso Básico de Emergencia (BEC), que puede aumentar el conocimiento y la confianza de los estudiantes al manejar condiciones de emergencia, y la práctica basada en evidencia puede aumentar la autoeficacia, las actitudes y el comportamiento de los estudiantes al tratar con pacientes de emergencia.

Palabras clave

Capacidad de las enfermeras; basada en la actividad física; tratamiento de emergencia.

Introduction

Patients with high-risk problems, such as cardiovascular disease, cerebrovascular disease, respiratory disease, cancer, ischemic heart disease, and cardiac arrest, must be treated immediately through emergency treatment procedures because these diseases can cause death (Arrogante et al., 2021; Conning et al., 2021). However, most hospitals, especially emergency departments, still have below-optimal service quality; this is confirmed by the fact that almost a third of deaths in the United States are caused by acute illnesses and occur in hospitals (Meeker & White, 2021). This shows that patients' safety is primarily determined by the quality of health services and is an indicator of the sensitivity and professionalism of nurses in hospitals (Steel et al., 2021).

The quality of health services, especially emergency departments in treating high-risk patients, can save more lives and increase patient survival. One of the most critical facilities in the emergency department is intrahospital transportation (IHT). IHT, which moves from an emergency room to an intensive care unit (ICU) for diagnostic or therapeutic procedures, requires a working system in the form of a transportation team, tasks, tools and techniques, environment, and organization to anticipate changes in patient conditions, can change the treatment environment, and results in side effects that can endanger patients' safety (Hu et al., 2021).

The primary health service at the hospital is a doctor whose job is to handle disease complaints and monitor health developments until patients recover. Doctors who work in the emergency department must be able to stabilize patients' conditions, provide analgesia, d relieve discomfort, initiate or delay resuscitation for patients experiencing cardiac arrest, and become sensitive and empathetic to the psychological needs of the patients' family, especially when the patients are dead (Conning et al., 2021). One of the health services in hospitals is the nutritional needs of patients. High-risk and elderly patients must pay close attention to their physiological and nutritional needs, such as protein, energy, or vitamins because unfulfilled protein and energy can result in severe malnutrition, the risk of falls, wound infections, delirium, and higher mortality (Brunner et al., 2023).

Another factor that dramatically influences emergency management is nurses. A nurse's knowledge, skills, and experience are pivotal to ensuring good and safe patient care (Abelsson et al., 2021). In clinical practice, nurses spend most of their time interacting with patients to perform medication management, body hygiene, and patient health control (Latimer et al., 2023). Nurses must be able to identify quickly and accurately and carry out appropriate interventions in the patient's worsening clinical condition. However, there are many cases where patients' worsening clinical conditions are not detected or are late detected, resulting in a lack of appropriate intervention for patients (Maenhout et al., 2021). Delayed medical intervention compounded by inappropriate treatment due to nurses' failure to monitor health developments can result in potential losses and actual health hazards for patients (Latimer et al., 2023). The leading cause of errors in medical practice is the low competency of nurses, especially in countries with low economies. Data show more than 68% of nursing knowledge and skill disparity between nurses in developed and developing countries (Scanlon et al., 2023).

The leading solution to overcoming the problem of nurses' competency is quality nursing education, which produces qualified and professional nurses. As nurses work with complex difficulties in the emergency department, they require advanced clinic

al qualifications and extensive medical knowledge, such as understanding the management of respiratory problems, heart failure, heart attacks, chronic obstructive pulmonary disease (COPD), and indications for and administration of oxygen treatment. Moreover, they must be skilled at using electrocardiograms, performing urine analyses, and conducting C-reactive protein (CRP), hemoglobin, and other diagnostic tests. Nurses must also be able to evaluate patients' health development. Nurses require pharmacology and nutrition knowledge when receiving a list of drugs and nutrition. Nurses also have advanced clinical skills in conducting systematic observations and clinical examinations to detect and identify changes in patients' conditions. Lastly, nurses must have ethical qualifications and a holistic approach, namely being confident, remaining calm in acute situations, and having concern and empathy for patients and their families (Landstad et al., 2021).

Professional and qualified nurses who work in the emergency unit can be produced through nurse education that integrates practice with clinical conditions, such as in hospitals and the emergency unit.

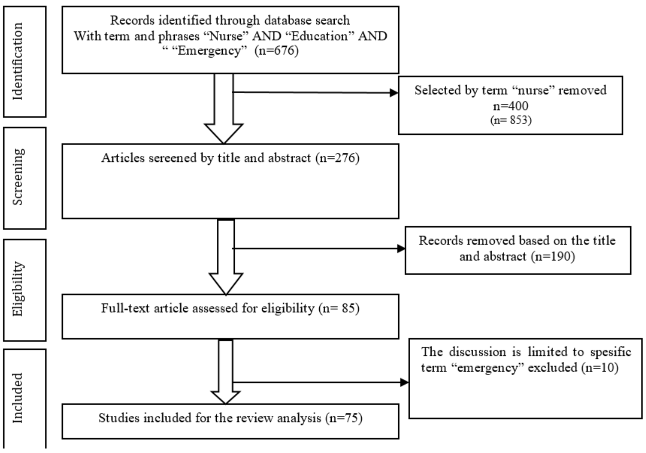
Nurse education programs, supported by medical practitioners to share knowledge and experience, can provide exposure to various clinical settings, consolidate theory, enhance clinical practice skills, strengthen decision-making, and improve time management (Coventry & Russell, 2021). Collaboration programs between nursing educational institutions and hospitals and palliative care (Hospice and palliative care) are needed to train prospective nurses with clinical competence in the field of hospital and palliative care (HPC) to understand optimal care for patients with serious illnesses or patients with a verdict of the end of life (Osakwe et al., 2023).

Nursing education programs must develop and implement an inclusive curriculum to produce nurse graduates who have concern and empathy for patients, especially the elderly (Abudu-Birresborn et al., 2023). These ethical qualifications in the form of caring and empathy can be achieved by nursing education through interprofessional learning (IPL), which allows nurses to learn how to work with many health workers from different professional backgrounds to provide the best quality services to patients, families, and the community (Kiegaldie et al., 2023). Based on various studies regarding the importance of snacking skills in the emergency unit for a nurse, this research will comprehensively examine various studies that discuss training or education for nurses in handling emergency conditions

Method

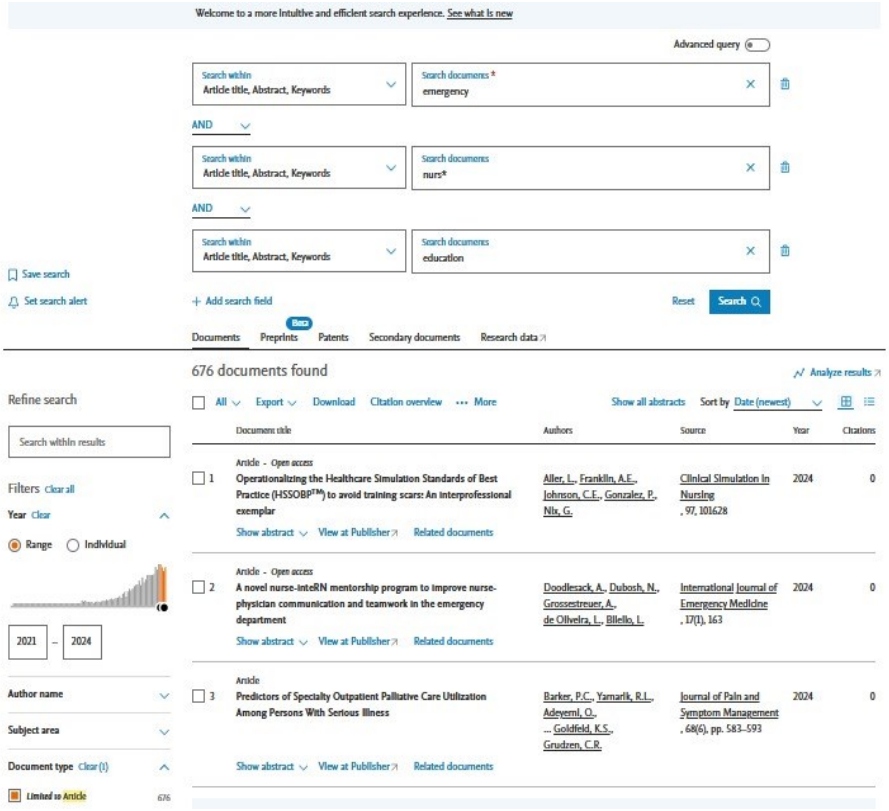
This research is a literature review from the results of Web of Science, SCOPUS, and Google Scholar searches on research studies on emergency care published from 2021 to 2024. The search was carried out with the keywords "Nurse" AND "Education" AND "Emergency" so that A total of 450 titles and abstracts were obtained. The data source was obtained from the Scopus database. The collected data is then exported to a text file in CSV form for further analysis with the help of the Rstudio Package, which includes networking and Biblioshiny visualization. Next, an in-depth review of the entire content was carried out, and 75 pieces of literature were selected as material for in-depth study (Figure 1).

Figure 1. Diagram of the Systematic Review process and selection of included articles



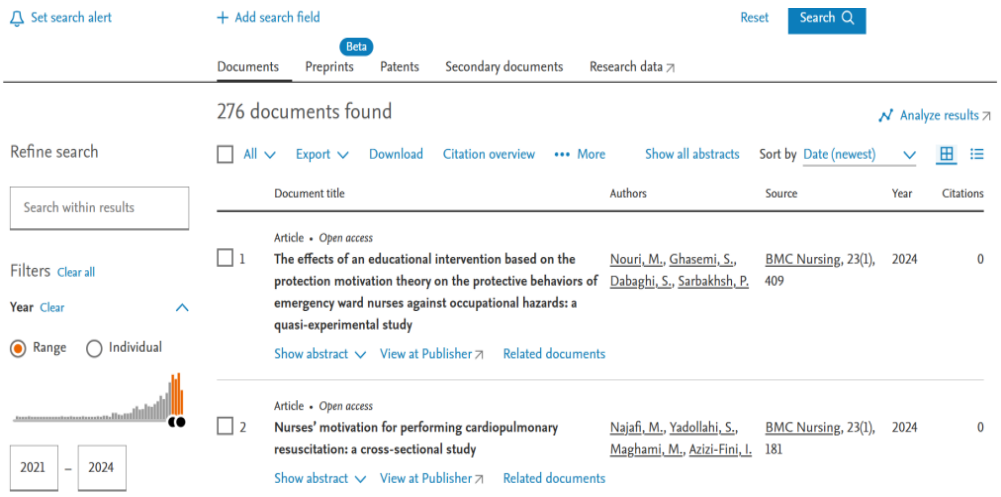
The criteria for selected articles are articles that discuss steps that can be used as solutions to emergency conditions in hospitals, either through training or simulations given to health workers or nursing students' to increase their knowledge and skills in handling emergency patients. Figure 1 which shows the systematic review process shows that research data in the form of scientific articles was obtained through the Web of Science, SCOPUS, and Google Scholar websites by entering several keywords such as "Emergency", "Nurse", and "Education", a search on the Scopus website produced as many as 676 articles. The article search process is in the following image:

Figure 2. Results of data searching article through the SCOPUS website



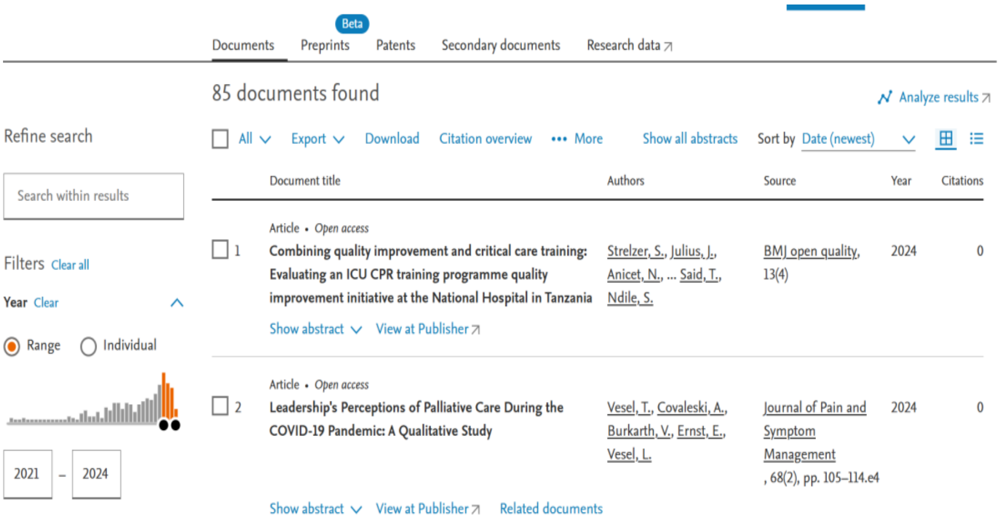
The articles obtained then go through a filter process by selecting articles that discuss "Nurse" in the title and abstract. This filtering process eliminated 400 articles, where articles that did not mention the word "Nurse" were eliminated, resulting in 276 articles entered into the next process. The documentation for this filter process is as follows:

Figure 3. Results of filtering article through the SCOPUS website



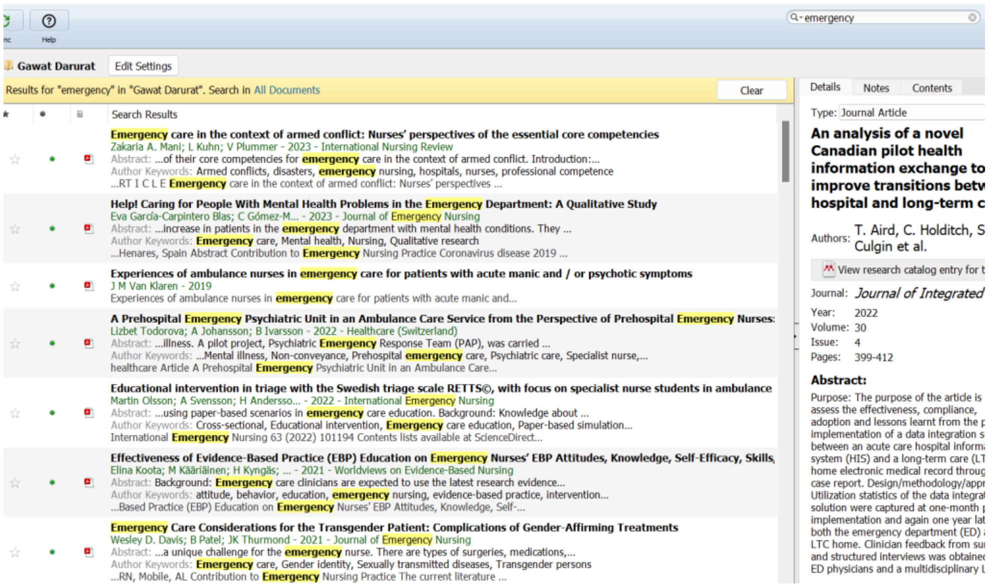
The next process is screening, where the articles obtained are sorted again based on the title and abstract. This screening is carried out by examining which titles and abstracts match the criteria sought. This screening process eliminated 190 articles, leaving 85 articles. Documentation of the screening process in this study is:

Figure 4. Results of screening article through the SCOPUS website


Documents
Preprints
Beta
Patents
Secondary documents
Research data
85 documents found
Analyze results
Refine search
All
Export
Download
Citation overview
More
Show all abstracts
Sort by Date (newest)
Search within results
Document title
Authors
Source
Year
Citations
Filters Clear all
Year Clear
Range
Individual
2021
2024
Article • Open access
1 Combining quality improvement and critical care training: Evaluating an ICU CPR training programme quality improvement initiative at the National Hospital in Tanzania
Strelzer, S., Julius, J., Anicet, N., ... Said, T., Ndile, S.
BMJ open quality, 13(4)
2024
0
Show abstract
View at Publisher
Article • Open access
2 Leadership's Perceptions of Palliative Care During the COVID-19 Pandemic: A Qualitative Study
Vesel, T., Covaleski, A., Burkarth, V., Ernst, E., Vesel, L.
Journal of Pain and Symptom Management, 68(2), pp. 105–114.e4
2024
0
Show abstract
View at Publisher
Related documents

After obtaining 85 articles, these articles were sorted again to determine which of the contents of the entire article met the predetermined criteria, and a total of 75 articles were obtained. The documentation for the sorting steps is as follows:

Figure 5. Results of sorted article through the Mendeley


emergency
Help
Gawat Darurat
Edit Settings
Results for "emergency" in "Gawat Darurat". Search in All Documents
Clear
Details
Notes
Contents
Search Results
Emergency care in the context of armed conflict: Nurses' perspectives of the essential core competencies
Help! Caring for People With Mental Health Problems in the Emergency Department: A Qualitative Study
Experiences of ambulance nurses in emergency care for patients with acute manic and / or psychotic symptoms
A Prehospital Emergency Psychiatric Unit in an Ambulance Care Service from the Perspective of Prehospital Emergency Nurses:
Educational intervention in triage with the Swedish triage scale RETTS©, with focus on specialist nurse students in ambulance
Effectiveness of Evidence-Based Practice (EBP) Education on Emergency Nurses' EBP Attitudes, Knowledge, Self-Efficacy, Skills,
Emergency Care Considerations for the Transgender Patient: Complications of Gender-Affirming Treatments
Type: Journal Article
An analysis of a novel Canadian pilot health information exchange to improve transitions betw hospital and long-term c
Authors: T. Aird, C. Holditch, S Culgin et al.
View research catalog entry for t
Journal: Journal of Integrated
Year: 2022
Volume: 30
Issue: 4
Pages: 399-412
Abstract:

After screening, 75 articles were reviewed to obtain data regarding the steps to solve emergency conditions.

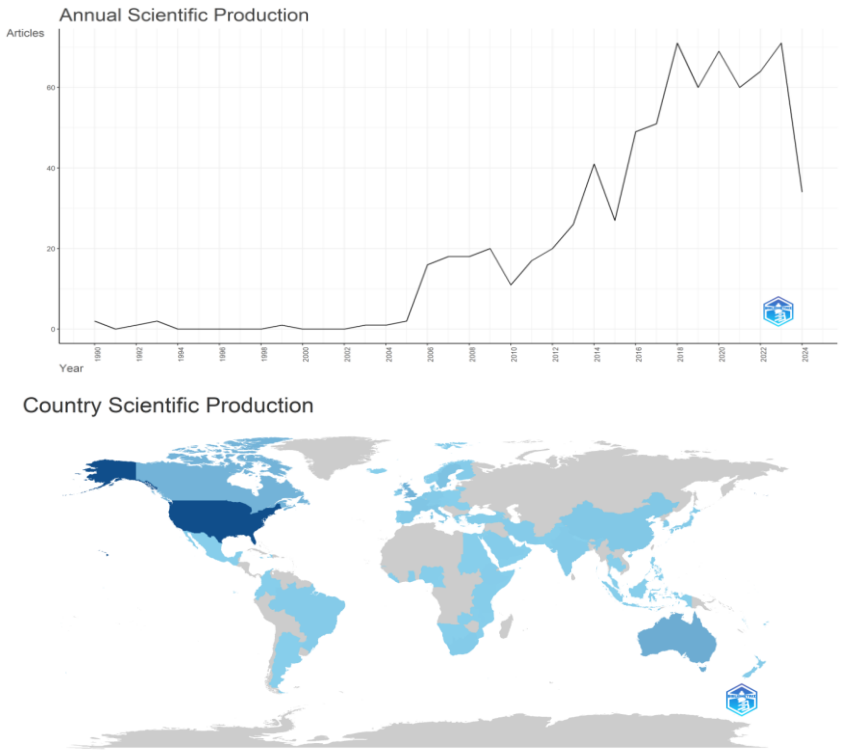
Results

The frequency of natural and human-caused disasters emphasizes the need for emergency preparedness education for nurses, as they are the largest group of health professionals meeting the needs of those affected by disasters and public health emergencies. Competency-based education provides the infrastructure for nurses to learn about emergency preparedness and response, with the International Nursing Coalition for Mass Casualty Education (INCMCE) developing competencies and curriculum resources for emergency planning and response. Although curriculum resources for

emergency planning and response are available, there is a need for a more centralized resource for faculty and students.

Enrolling nursing students in disaster-related interventions over several semesters has been shown to enhance their understanding of disaster nursing and the knowledge and skills of community members for emergency preparedness. Factors such as disaster-related experience and knowledge have been found to influence emergency nurses' core disaster nursing competencies, highlighting the need for educational and training programs to enhance their disaster preparedness. Core competencies are essential for consistently implementing best practices in disaster health care, ensuring graduates know disaster management and public health emergencies.

Figure 6. Results of bibliometric analysis with biblioshiny to see the frequency of publications in emergency education studies for nurses



Competency-based education, such as that provided by the International Nursing Coalition for Mass Casualty Education (INCMCE), offers a framework for nurses to learn about emergency preparedness and response, with resources available, including face-to-face classes, web-based modules, and e-journals. The American Nurses Association (ANA) has issued a (In These Times 25/06 -- Overtime Out. https://inthesetimes.com/issue/25/06/slaughter2506.html) position statement outlining nurses' responsibilities in a significant disaster, emphasizing the importance of education and training in disaster preparedness. Nursing education aims to prepare students to be competent, skilled, and knowledgeable in providing quality care to communities affected by disaster, focusing on evidence-based teaching and learning strategies, integration of interprofessional education, clinical experiences, simulation, and participation in research specific to disaster nursing.

The ongoing threat of bioterrorism and natural disasters requires nurses to collaborate with multidisciplinary teams and use critical thinking skills to provide safe nursing care during potentially disruptive public health emergencies, emphasizing the importance of public health emergency simulation training for nursing students. A study documented that most nursing staff had little or no familiarity with their role in disaster response, highlighting the need for more nursing preparedness and emergency response education. The lack of accepted and standardized requirements for disaster nursing training or continuing education has resulted in unfocused training and education efforts, leading to inconsistent preparedness and a lack of integration across healthcare systems.

Del Carrero), Retos, 63, 482-499 ISSN:1579-1726, el SSN: 1988-2041 https://recyt.fecyt.es/index.php/retos/index

Table 1. Summary of studies on various nursing education activities in increasing the capacity to handle emergency patients

Author	Year	Regions	Study Aim	Study Design	Study Population	Sampling Method	Data Collection Procedure	Outcomes
Abelson et al.	2020	Sweden	to identify factors that cause stress in simulated emergency care.	qualitative, descriptive, and observational study	sixth-semester students of the nursing program	convenience sampling	Students simulate treating chest pain. The patient rings the bell, which the student then picks up. Students are asked to examine the patient to analyze the cause of the chest pain. Students then contact a doctor to get a prescription for medication.	Simulations in learning can improve students' learning, skills, and knowledge and can also reduce stress due to panic in emergencies
Burns et al.	2022	USA	to analyze whether the presence of visual signage can increase patient handover compliance	Plan Do Study Act (PDSA) method	ER staff at a hospital in the USA		First PDSA cycle: added a "Report Called" button to the patient chart. PDSA's second cycle: Provides training programs to strengthen procedural mechanisms. Third PDSA cycle: develop a simple visual tool associated with patient bed bad request placement	The application of visual cues was able to increase staff compliance by >97% and lasted for 84 months
Birresborn	2023	Canada	to describe the modification of the General Self-efficacy scale to the General Self-efficacy to Care for Older scale appropriate for the African context	cross-sectional study	second- and third-year nursing students from two public Nursing and Midwifery Training Colleges in the northern and southern sectors of Ghana	mix method	Data collection was carried out by interviews using verbal probing techniques. Students are asked to read each item and provide and explain their responses. Interviews lasted between 30 and 45 minutes.	The modified General Self-Efficacy scale can measure nursing students' self-efficacy in caring for elderly adult patients in Africa.
Diaz-Agea, et al.	2022	Spanish	to determine the subjective impact of the pandemic due to COVID-19 on communication, as perceived by nurses working at emergency services and Intensive Care Units	qualitative studies	nurses	snowball sampling	Researchers interviewed respondents to obtain data regarding nurses' experiences before and after the pandemic.	Based on the research results, it was found that there is a need for communication skills training and its influence on the management of emergencies. Non-verbal communication is more affected due to the use of PPE and the initial fear of infection. There also needs to be space for mutual support and work team group cohesion during the pandemic
Blas et al.	2023	Spanish	to describe the nursing staff's experiences in the emergency department	qualitative descriptive study	emergency nurses	convenience sampling, snowball sampling	Data collection was carried out using open-ended interviews to ask about nurses' experiences in the emergency unit.	The research results show that it is essential to provide emergency care training to be ready to care for patients who experience mental health, including bias education and the need to apply standard protocols.
Lindstrom & Falk	2023	Sweden	To describe self-reported professional competence after postgraduate education among RNs in emergency care settings	cross-sectional design	nurse students and postgraduate nurse students	purposive sampling	Data collection was carried out using a web-based questionnaire	The results of the research show that to ensure the competency required by emergency department nurses, additional training and revalidation of the competency of emergency department nurses is necessary
Cecilia et al.	2021	Australia	to examine the knowledge, preparedness, and experiences of Australian emergency nurses, emergency physicians, and paramedics in managing COVID-19	voluntary cross-sectional study	ER nurses, ER doctors, and paramedics	random sampling	Data was collected using a structured questionnaire containing questions related to the respondent's knowledge about Covid-19 and experience working as an emergency doctor during Covid-19	The research results show that respondents' knowledge of Covid-19 is excellent. The majority of respondents have received special COVID-19 training and education, including the use of PPE equipment. Nurses and doctors working in the ER said their work had increased drastically. Common concerns are the transmission of disease to families and the availability of PPE
Yingli Hu, et al.	2021	China	To investigate the current status of Intrahospital transport (IHT) of critically ill patients and emergency nurses' perception of IHT	random sampling	emergency nurses	convenience sampling	Data were collected using a self-reported questionnaire which consists of 3 parts (basic information, current IHT status of critically ill patients, and ER nurses' perceptions of IHT)	The research results showed that all nurses who took part in this study were competent in carrying out IHT on critically ill patients without special training. The implementation of standard transportation protocols can reduce the occurrence of side effects such as reduced oxygen supply and incorrect destination addresses.
Claren	2019	Dutch	To explore the experiences of ambulance nurses in emergency care for patients with acute manic and psychotic symptoms	an exploratory qualitative generic approach	ambulance nurses	purposive sampling	Data collection was carried out through interviews	The research results show that there is a need for collaboration with CRT, police, and hospitals to improve the quality of care in ambulances
A. Mani et al.	2023	Saudi Arabia	To identify nurses' perspectives of their core competencies for emergency care in the context of armed conflict	cross-sectional survey design	emergency nurses	convenience sampling	Data collection was carried out using a questionnaire	The results of respondents' answers showed that education, training, and routine exercises were needed to provide quality emergency care for victims of armed conflict
Botes & Mabatshe	2022	South Africa	To describe nurses' attitudes regarding family presence during the management of acutely deteriorating patients in the emergency center	description quantitative study	professional nurses	purposive sampling	Data was collected using the Survey Emergency Department Family Presence (ECFP)	The study results show that having the family present during the management of patients whose condition is deteriorating in an emergency has a high negative impact on patient care and can affect the performance of nurses—for example, families who complain about the quality of care for their families.
Nasstrom, et.al	2023	Sweden	To describe how ambulance nurses feel and manage their	qualitative studies	ambulance personnel	purposive sampling	Data was collected using semi-structured interviews to obtain	The research results found that ambulance personnel experienced

Ramírez-Barrero), Retos, 63, 482-493 ISSN:1579-1726, el SSN: 1988-2041 https://recyt.fecyt.es/index.php/retos/index

Table 1. Summary of studies on various nursing education activities in increasing the capacity to handle emergency patients

Author	Year	Regions	Study Aim	Study Design	Study Population	Sampling Method	Data Collection Procedure	Outcomes
			emotions before, during, and after a care encounter with a child.				data regarding how respondents responded when they received an emergency call regarding a minor child	various emotions when encountering child patients due to their lack of experience. For ambulance personnel, training and education in child care will be very beneficial
Welling et al.	2023	Norway	To examine knowledge and awareness of NTS throughout continuing education of nurse anesthetists, emergency care nurses, critical care nurses, and operating room nurses	descriptive, repetitive cross-sectional design	nurse students and supervisors	purposive sampling	Participants were given different questionnaires for the initial level of education and after 12 months of education. Questionnaires are answered before lectures, and after 12 months of education, students work on questionnaires during lectures while supervisors answer clinical practice questionnaires	The research results show that non-technical skills have significant potential for improvement and inclusion in learning programs and clinical practice. Integration of NTS in learning activities can strengthen student competence
Holditch et al.	2022	Canada	to assess the effectiveness, compliance, adoption, and lessons learned from the pilot implementation of a data integration solution between an acute care hospital information system (HIS) and a long-term care (LTC) home electronic medical record through a case report	research and development	ED Physicians and residents	random sampling	Researchers developed an emergency hospital information system (HIS) and an extended care home (LTC) electronic medical record. After one month of use, the researchers collected data from questionnaires and interviews with ER doctors.	The research results show that implementing HIS can save up to 45 minutes. The perceived obstacles include awareness, the efficacy of training and delivery models, workflow integration (practice), and the limited number of facilities during the trial.

Discussion

An emergency is a situation that requires immediate action. In the health sector, emergencies require doctors and medical personnel to care for patients immediately. Emergencies occur not only in hospitals but anywhere, including battlefields. The war that occurred in Yemen in 2015 caused Yemen to have a shortage of health service providers and medical personnel because the nurses did not have specialized skills to treat victims during the war properly. This emergency situation necessitated training for nurses to carry out intensive care for war victims (Abdul-Razik et al., 2021). Education, training, and routine exercises in handling emergencies for conflict patients have been proven to effectively increase quality emergency care competency for victims of armed conflicts (Mani et al., 2023).

Covid-19 is a pandemic that occurred from 2019 to 2022. This pandemic made hospitals busy with Covid-19 patients, and the work of medical personnel increased drastically. Medical personnel were required to understand how to treat patients properly and have an excellent understanding and knowledge of COVID-19. Fortunately, medical personnel had outstanding levels of understanding and knowledge (Li et al., 2021). Carrying out duties during the COVID-19 emergency demanded good communication. The research results revealed a need for communication skill training in managing emergencies. Communication can be in the form of verbal and non-verbal communication; during the pandemic, non-verbal communication was considered more appropriate because nurses use PPE to avoid virus transmission (Díaz-Agea et al., 2022). While medical personnel provided care to COVID-19 patients, nurses were mediated by spatial, temporal, and emotional barriers caused by the drastic increase in work; consequently, these barriers prevented nurses from providing holistic care, an important component in meeting professional needs (Carnesten et al., 2023). The presence of the family during the emergency management of COVID-19 patients whose condition worsening had highly negative impacts on patient care; such a condition could affect the performance of nurses (Botes & Mabetshe, 2022). For example, families complained about the quality of care for the patients and did not know about proper care for patients, which led to family's misconceptions toward nurses (Botes & Mabetshe, 2022).

Heart attacks are an emergency and constitute the first killer disease in humans. Medical expertise to deal with this problem is pivotal, so health students should have such medical expertise and skills. Clinical simulation can effectively increase the nursing competence to treat heart attack patients (Arrogante et al., 2021). Other emergencies, such as injury/trauma, cardiovascular, respiratory disease, neurological problems, and other emergencies, require nurses to understand and have the knowledge, skills, and competence to handle these problems; therefore, they should attend training in handling critical conditions (Ndung'u et al., 2022). *Basic Emergency Care* (BEC) course is training to improve emergency care competency and deal with acute illnesses and injuries. The BEC course provides comprehensive basic emergency training in areas with low resources. A study proved that BEC training

García-Carpintero, Retos, 63, 482-494 ISSN:1579-1726, el SSN: 1988-2041 https://recyt.fecyt.es/index.php/retos/index

effectively increased nurses' long-term knowledge and self-efficacy during emergency care (Friedman et al., 2022). Nurses who deal with patients with a death verdict also require certain skills, especially related to the nurse's emotions; it is clear that comprehensive training in caring for dying patients is necessary to reduce anxiety and excessive feelings of grief (Conning et al., 2021). The need for a pilot demonstration project based on action research to address gaps and potential concerns of nurses (Barry et al., 2022). Nurses who handle critical patients face many challenges, such as logistical constraints, human resources, knowledge, financial resources, staff attitudes, and professional barriers. One possible solution to overcome this problem is training in emergency services to increase the skill levels of nurses (Karikari et al., 2023).Humans not only experience physical illnesses but also psychological ones; for example, patients who deliberately commit self-harm. The results of the research show that in dealing with patients who self-harm, there is a need for mental health care in the ER, but nurses in the ER feel they still lack the competence needed to care for these patients. Instead of training to increase the competency of ER nurses, it would be better if ER nurses and psychiatrists collaborate to utilize special skills according to their respective fields (Østervang et al., 2022). Nurses with concentration backgrounds not in the field of mental illness feel that they still have a lack of knowledge of mental illness. A higher level of education or longer professional experience does not appear to influence nurses' level of confidence in treating patients with mental illness. This shows a need for collaboration with the psychiatric department (Önnheim et al., 2022). Treatment of patients with mental illness does not only occur in hospitals but also in ambulances. Emergencies that occur in ambulances deal with patients with physical illness, mental illness (psychiatric), or complaints of mental illness; therefore, all people who are part of the health sector should have the skills, knowledge, and competence to handle patients properly. This case shows the need for collaboration between ambulance nurses and *the Crisis Resolution Team* (CRT), police, and mental hospitals to handle emergency patients with mental disorders. CRT can help ambulance nurses handle psychiatric crisis patients, and police can help in unsafe situations (Klaren, 2019; Todorova et al., 2022). Apart from patients, emergencies can affect nurses' stress levels; when facing a patient in a critical condition, a nurse feels afraid but should move swiftly and precisely. Nursing students at a Swedish University had such an experience when practicing a treatment for patients with chest pain. This example illustrates that simulation training in handling patients with chest pain is necessary to increase nursing students' understanding and skills to reduce stress when facing an emergency (Abelsson et al., 2021). Ambulance personnel also experience various emotions when encountering child patients due to their lack of experience. Training and education in child care will benefit ambulance personnel (Näsström et al., 2023).

The description above denotes that medical personnel face several obstacles when dealing with emergencies; these obstacles originate from the nurses. Prospective nurses should attend prevention programs to prepare them to face emergencies and minimize obstacles; one of the programs is to modify the learning model and learning activities in the classroom (García-Carpintero Blas et al., 2023; Lindström & Falk, 2023; Mani et al., 2023). The case-based learning (CBL) method emphasizes case studies. The CBL method applied through multi-episode cases effectively increases students' perception of problem-solving abilities and learning motivation (Gholami et al., 2021). The application of an interdisciplinary curriculum in classroom learning can improve understanding of *Pediatric Emergency Medicine* (PEM) and team performance (Burns et al., 2021). Apart from implementing learning methods and curricula, training can increase the competency of prospective nurses. Simulation-based training can improve self-efficacy (team performance) and self-leadership qualities (Maenhout et al., 2021). *Basic Emergency Course (BEC)* training can increase students' knowledge and confidence when managing emergency conditions (Olufadeji et al., 2021). *Meanwhile, evidence-based practice* training can improve students' self-efficacy, attitudes, and behavior when treating emergency patients (Koota et al., 2021). Training on using ultrasound to assess stroke etiology is also important for students to detect potential strokes in patients (Antipova et al., 2021). Research shows the need for a *pilot demonstration project* based on action research to overcome gaps and potential concerns for nurses handling emergency patients. This can also be applied to classroom learning for nursing students (Barry et al., 2022). *The Sickkids-Ghana Pediatric Nursing Education Partnership (PNEP)* program was established to reduce the mortality rate of young children in Ghana by improving pediatric nursing education. Intensive PNEP learning for nursing students can increase students' knowledge, self-confidence, clinical skills, job satisfaction, and professionalism in handling child care (Salehi et al., 2021). Emergencies in hospitals mean nurses must have good qualifications, such as extensive medical knowledge, advanced clinical skills, ethical qualifications, and a holistic approach (Landstad et al., 2021). *Non-technical skills*

potentially improve and are included in learning programs and clinical practice. The research results show that integrating NTS into learning activities can strengthen students' competence (Wevling et al., 2023).

Training can improve participants' understanding and skills. It was also found that variation in pupil size is a marker to complement physiological metrics for predicting mental workload and clinical performance in medical practice. The pupillary reaction response is controlled by the sympathetic pathway of the autonomic nervous system, while the parasympathetic pathway regulates the pupillary light reflex. When treating cognitive cases, emotional control can increase sympathetic activity, thereby reducing light reflexes and parasympathetic emotional responses that cause pupils to change size during cognitive task processing. According to task difficulty, the pupil diameter increases in response to mental workload and narrows as workload decreases (Mauriz et al., 2023).

Conclusions

Based on the results of the study it can be concluded that emergencies can occur outside the ER, such as in ambulances and conflict areas. emergency conditions can occur due to disease and surrounding circumstances. emergencies can be overcome by patient handling training for health workers and direct practice and application of learning methods for nursing students to improve their competence in handling emergency patients.

References

Mujica-Johnson, F. N., Concha López, R., Peralta Ferroni, M., & Burgos Henríquez, S. (2024). Gender Perspective in Physical Education Teacher and School Training. Critical analysis in terms of the Chilean context (Gender perspective in Physical Education, teacher training and schooling. Critical analysis based on the chilean context). *Challenges, 55*, 339–345. https://doi.org/10.47197/retos.v55.103535

Abdul-Razik, M. S., Kaity, A. M., Banafaa, N. S., & El-Hady, G. W. (2021). Disaster response in a civil war: Lessons on local hospitals capacity. The case of Yemen. International Journal of Healthcare Management, 14(1), 99–106. https://doi.org/10.1080/20479700.2019.1616386

Abelsson, A., Gustafsson, M., Petersèn, C., & Knutsson, S. (2021). Physical stress triggers in simulated emergency care situations. Nursing Open, 8(1), 156–162. https://doi.org/10.1002/nop2.614

Abudu-Birresborn, D., Brennenstuhl, S., Puts, M., McCleary, L., Nyagre, V. Y., Chu, C. H., & Cranley, L. (2023). Modification and adaptation of the general self-efficacy scale to determine nursing students' belief in their capability to care for older adults. International Journal of Africa Nursing Sciences, 19(March), 100595. https://doi.org/10.1016/j.ijans.2023.100595

Antipova, D., Eadie, L., MacAden, A. S., & Wilson, P. (2021). Training novice users to assess stroke aetiology in remote settings using transcranial ultrasound pilot study. Rural and Remote Health, 21(1). https://doi.org/10.22605/RRH5618

Arrogante, O., González-Romero, G. M., Carrión-García, L., & Polo, A. (2021). Reversible causes of cardiac arrest: Nursing competency acquisition and clinical simulation satisfaction in undergraduate nursing students. International Emergency Nursing, 54(September 2020), 100938. https://doi.org/10.1016/j.ienj.2020.100938

Barry, T., Batt, A., Agarwal, G., Booker, M., Casey, M., & McCombe, G. (2022). Potential for Paramedic roles in Irish General Practice: A qualitative study of stakeholder's perspectives. HRB Open Research, 5, 1–23. https://doi.org/10.12688/hrbopenres.13545.2

Botes, M., & Mabetshe, L. (2022). Family presence during patient acute deterioration: A survey of nurses' attitudes and reflection on COVID-19 in an African setting. African Journal of Emergency Medicine, 12(3), 259–263. https://doi.org/10.1016/j.afjem.2022.04.012

Brunner, S., Mayer, H., Blum, K., Breidert, M., Dietrich, M., Dahl, E., & Müller, M. (2023). Nutrition-related care needs of older patients in hospital: A qualitative multimethod study. International Journal of Nursing Knowledge, 34(2), 148–160. https://doi.org/10.1111/2047-3095.12389

Burns, B., Bailey, J., Hartenstein, M., Sullivan, D., Burns, E., Lin, A., Chan, D., Plainkum, P., Techapaitoon, S., Pandee, U., & Ma, O. J. (2021). A novel program to enhance pediatric emergency medicine

training in Thailand. AEM Education and Training, 5(3), 1–10. https://doi.org/10.1002/aet2.10596

Carnesten, H., Wiklund Gustin, L., Skoglund, K., & von Heideken Wågert, P. (2023). Caring through barriers—Newly graduated registered nurses' lived experiences in emergency departments during the COVID-19 pandemic. Journal of Advanced Nursing, 79(6), 2269–2279. https://doi.org/10.1111/jan.15585

Conning, R., Naidoo, R., & Bhagwan, R. (2021). The preparedness of emergency care providers to deal with death, dying and bereavement in the pre-hospital setting in dubai. Australasian Journal of Paramedicine, 18, 01–07. https://doi.org/10.33151/ajp.18.944

Coventry, T. H., & Russell, K. P. (2021). Clinical sympathy – A mixed method study of the relationship between the clinical nurse educator and the graduate nurse. Nurse Education in Practice, 55(July), 103150. https://doi.org/10.1016/j.nepr.2021.103150

Díaz-Agea, J. L., Orcajada-Muñoz, I., Leal-Costa, C., Adánez-Martínez, M. G., De Souza Oliveira, A. C., & Rojo-Rojo, A. (2022). How Did the Pandemic Affect Communication in Clinical Settings? A Qualitative Study with Critical and Emergency Care Nurses. Healthcare (Switzerland), 10(2). https://doi.org/10.3390/healthcare10020373

Friedman, A., Wallis, L. A., Bullick, J. C., Cunningham, C., Kalanzi, J., Kavuma, P., Osiro, M., Straube, S., & Tenner, A. G. (2022). Pre-course online cases for the world health organization's basic emergency care course in Uganda: A mixed methods analysis. African Journal of Emergency Medicine, 12(2), 148–153. https://doi.org/10.1016/j.afjem.2022.03.005

García-Carpintero Blas, E., Gómez-Moreno, C., Moreno-Gomez-Toledano, R., Ayuso-del-Olmo, H., Rodrigo-Guijarro, E., Polo-Martínez, S., Manso Perea, C., & Vélez-Vélez, E. (2023). Help! Caring for People With Mental Health Problems in the Emergency Department: A Qualitative Study. Journal of Emergency Nursing, 49(5), 765–775. https://doi.org/10.1016/j.jen.2023.04.007

Gholami, M., Changaee, F., Karami, K., Shahsavaripour, Z., Veiskaramian, A., & Birjandi, M. (2021). Effects of multiepisode case-based learning (CBL) on problem-solving ability and learning motivation of nursing students in an emergency care course. Journal of Professional Nursing, 37(3), 612–619. https://doi.org/10.1016/j.profnurs.2021.02.010

Hu, Y., Shi, D., You, L., & Li, W. (2021). Intrahospital transport of critically ill patients: A survey of emergency nurses. Nursing in Critical Care, 26(5), 326–332. https://doi.org/10.1111/nicc.12601

Karikari, A. K., Agyei-Baffour, P., Mock, C., Edusei, A. K., Donkor, P., Yankson, I. K., & Merdiemah, G. A. (2023). Understanding the challenges and coping mechanisms adopted by nursing staff in managing critically-ill patients at district hospitals in the Ashanti Region, Ghana. International Journal of Africa Nursing Sciences, 18(February 2022), 100515. https://doi.org/10.1016/j.ijans.2022.100515

Kiegaldie, D., Weerasekara, I., & Shaw, L. (2023). Investigating the Effects of Intraprofessional Learning in Nursing Education: Protocol for a Longitudinal Study. Nursing Reports, 13(2), 740–750. https://doi.org/10.3390/nursrep13020065

Klaren, J. M. Van. (2019). Experiences of ambulance nurses in emergency care for patients with acute manic and / or psychotic symptoms.

Koota, E., Kääriäinen, M., Kyngäs, H., Lääperi, M., & Melender, H. L. (2021). Effectiveness of Evidence-Based Practice (EBP) Education on Emergency Nurses' EBP Attitudes, Knowledge, Self-Efficacy, Skills, and Behavior: A Randomized Controlled Trial. Worldviews on Evidence-Based Nursing, 18(1), 23–32. https://doi.org/10.1111/wvn.12485

Landstad, B. J., Hole, T., Strand, A. M. S., & Kvangarsnes, M. (2021). Nursing qualifications needed in municipal emergency inpatient units. A qualitative study. BMC Nursing, 20(1), 1–8. https://doi.org/10.1186/s12912-021-00733-w

Latimer, S., Hewitt, J., de Wet, C., Teasdale, T., & Gillespie, B. M. (2023). Medication reconciliation at hospital discharge: A qualitative exploration of acute care nurses' perceptions of their roles and responsibilities. Journal of Clinical Nursing, 32(7–8), 1276–1285. https://doi.org/10.1111/jocn.16275

Li, C., Sotomayor-Castillo, C., Nahidi, S., Kuznetsov, S., Considine, J., Curtis, K., Fry, M., Morgan, D., Walker, T., Burgess, A., Carver, H., Doyle, B., Tran, V., Varshney, K., & Shaban, R. Z. (2021). Emergency clinicians' knowledge, preparedness and experiences of managing COVID-19 during the 2020

(Nº Extraordinario), Retos, 63, 482-493 ISSN:1579-1726, el SSN: 1988-2041 https://recyt.fecyt.es/index.php/retos/index

global pandemic in Australian healthcare settings. Australasian Emergency Care, 24(3), 186–196. https://doi.org/10.1016/j.auec.2021.03.008

Lindström, V., & Falk, A. C. (2023). Emergency care nurses' self-reported clinical competence before and after postgraduate education - a cross-sectional study. International Emergency Nursing, 70(May). https://doi.org/10.1016/j.ienj.2023.101320

Maenhout, G., Billiet, V., Sijmons, M., & Beeckman, D. (2021). The effect of repeated high-fidelity in situ simulation-based training on self-efficacy, self-perceived leadership qualities and team performance: A quasi-experimental study in a NICU-setting. Nurse Education Today, 100, 104849. https://doi.org/10.1016/j.nedt.2021.104849

Mani, Z. A., Kuhn, L., & Plummer, V. (2023). Emergency care in the context of armed conflict: Nurses' perspectives of the essential core competencies. International Nursing Review, April, 510–517. https://doi.org/10.1111/inr.12870

Mauriz, E., Caloca-Amber, S., & Vázquez-Casares, A. M. (2023). Using Task-Evoked Pupillary Response to Predict Clinical Performance during a Simulation Training. Healthcare (Switzerland), 11(4), 1–11. https://doi.org/10.3390/healthcare11040455

Meeker, M. A., & White, D. (2021). Transition to comfort-focused care: Moral agency of acute care nurses. Nursing Ethics, 28(4), 529–542. https://doi.org/10.1177/0969733020952128

Näsström, M., Junehag, L., Häggström, M., & Holmström-Rising, M. (2023). An emotional journey when encountering children in prehospital care: Experiences from ambulance nurses. International Emergency Nursing, 66(September 2022). https://doi.org/10.1016/j.ienj.2022.101239

Ndung'u, A., Ndirangu, E., Sarki, A., & Isiaho, L. (2022). A Cross-sectional Study of Self-Perceived Educational Needs of Emergency Nurses in Two Tertiary Hospitals in Nairobi, Kenya. Journal of Emergency Nursing, 48(4), 467–476. https://doi.org/10.1016/j.jen.2022.04.001

Olsson, M., Svensson, A., Andersson, H., Dehre, A., Elmqvist, C., Rask, M., Wireklint, S., & Norberg Boysen, G. (2022). Educational intervention in triage with the Swedish triage scale RETTS©, with focus on specialist nurse students in ambulance and emergency care – A cross-sectional study. International Emergency Nursing, 63(July), 101194. https://doi.org/10.1016/j.ienj.2022.101194

Olufadeji, A., Usoro, A., Akubueze, C. E., Aiwonodagbon, B. O., Strong, J., Kivlehan, S. M., & Akodu, B. (2021). Results from the implementation of the World Health Organization Basic Emergency Care Course in Lagos, Nigeria. African Journal of Emergency Medicine, 11(2), 231–236. https://doi.org/10.1016/j.afjem.2021.02.004

Önnheim, S., Johansson, A., Ivarsson, B., & Hagström, C. (2022). Self-Perceived Competence of Ambulance Nurses in the Care of Patients with Mental Illness: A Questionnaire Survey. Nursing Reports, 12(1), 226–234. https://doi.org/10.3390/nursrep12010023

Osakwe, Z. T., Horton, J. R., Ottah, J., Eisner, J., Atairu, M., & Stefancic, A. (2023). Academic-Clinical Collaborations to Build Undergraduate Nursing Education in Hospice and Palliative Care. Journal of Gerontological Nursing, 49(6), 13–18. https://doi.org/10.3928/00989134-20230515-01

Østervang, C., Geisler Johansen, L., Friis-Brixen, A., & Myhre Jensen, C. (2022). Experiences of nursing care for patients who self-harm and suggestions for future practices: The perspectives of emergency care nurses. International Journal of Mental Health Nursing, 31(1), 70–82. https://doi.org/10.1111/inm.12933

Salehi, R., Asamoah, A., de Young, S., Acquah, H., Agarwal, N., Aryee, S. E., Stevens, B., & Zlotkin, S. (2021). Scaling up pediatric nurse specialist education in Ghana – a longitudinal, mixed methods evaluation. BMC Nursing, 20(1), 1–12. https://doi.org/10.1186/s12912-021-00550-1

Scanlon, A., Murphy, M., Smolowitz, J., & Lewis, V. (2023). Advanced Nursing Practice and Advanced Practice Nursing roles within low and lower-middle-income countries. Journal of Nursing Scholarship, 55(2), 484–493. https://doi.org/10.1111/jnu.12838

Steel, M., Seaton, P., Christie, D., Dallas, J., & Absalom, I. (2021). Nurse perspectives of nurse-sensitive indicators for positive patient outcomes: A Delphi study. Collegian, 28(2), 145–156. https://doi.org/10.1016/j.colegn.2020.02.009

Todorova, L., Johansson, A., & Ivarsson, B. (2022). A Prehospital Emergency Psychiatric Unit in an Ambulance Care Service from the Perspective of Prehospital Emergency Nurses: A Qualitative Study. Healthcare (Switzerland), 10(1). https://doi.org/10.3390/healthcare10010050

Wevling, A., Olsen, B. F., Nygaard, A. M., & Heiberg, T. (2023). Knowledge and Awareness of Non-Technical Skills Over the Course of an Educational Program in Nursing - A Repeated Cross-

Pixel (Coord.) Retos, 63, 482-494 ISSN:1579-1726, el SSN: 1988-2041 https://recyt.fecyt.es/index.php/retos/index

Sectional Study. Advances in Medical Education and Practice, 14, 31–41. https://doi.org/10.2147/amep.s379341

Authors' and translators' details:

Lukman	lukman@poltekkespalembang.ac.id	Author
Jhon Feri	jhonferi@poltekkespalembang.ac.id	Author
Siti Romadoni	siro.ukhti@ikestmp.ac.id	Author
Nurna Ningsih	nurna_ningsih.nawawi@fk.unsri.ac.id	Author
Nadi Aprilyadi	aprilyadi@gmail.com	Author