

Evidence of validity in clinical nursing protocols in emergency care: an integrative review

Evidências de validade em protocolos clínicos de enfermagem na urgência: revisão integrativa

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ABSTRACT

Objective: to analyze the evidence of validity in clinical nursing protocols used in emergency care. **Methods:** an integrative review was conducted using the MEDLINE, SCOPUS, BDNF, CINAHL, and LILACS databases, as well as the Brazilian Digital Library of Theses and Dissertations. A manual search of the reference lists of the included studies was also performed. Studies published with no restrictions on time or language were eligible. **Results:** the final sample comprised 10 articles, predominantly methodological studies. The findings were synthesized into three categories addressing evidence related to clinical protocols within the context of emergency nursing. **Conclusion:** the scientific literature on evidence of validity in clinical nursing protocols identified in emergency care was found to be reliable and effective for use in clinical practice. **Contributions to practice:** identifying the reported evidence supports the development of effective interventions to improve care delivery related to emergency clinical protocols, reinforcing the role of nursing in care coordination and in optimizing decision-making. **Descriptors:** Clinical Protocols; Nursing; Validation Study; Emergencies; Nurse's Role.

RESUMO

Objetivo: analisar as evidências de validade em protocolos clínicos de enfermagem na urgência. **Métodos:** revisão integrativa realizada nas bases de dados MEDLINE, SCOPUS, BDNF, CINAHL, LILACS, Biblioteca Digital Brasileira de Teses e Dissertações e na busca manual nas listas de referências finais dos estudos incluídos. Foram elegíveis pesquisas publicadas sem restrição de tempo e idioma. **Resultados:** a amostra totalizou 10 artigos, com predominância de estudos metodológicos, sendo sumarizados em três categorias sobre evidências acerca de protocolos clínicos no contexto da enfermagem na urgência. **Conclusão:** a produção científica acerca das evidências de validade em protocolos clínicos de enfermagem na urgência identificados eram confiáveis e mostraram-se eficazes para serem utilizados na prática clínica. **Contribuições para a prática:** a identificação das evidências descritas subsidia a formulação de intervenções efetivas para o aprimoramento da assistência prestada acerca dos protocolos clínicos de urgência, ratificando o papel da enfermagem na coordenação do cuidado e otimização na tomada de decisões.

Descritores: Protocolos Clínicos; Enfermagem; Estudo de Validação; Emergências; Papel do Profissional de Enfermagem.

Introduction

Evidence of validity for clinical nursing protocols has become increasingly prominent in the scientific literature and is essential for health care delivery⁽¹⁾. These clinical nursing protocols are critical tools because they facilitate rapid, clear, and safe decision-making⁽²⁾. However, the effectiveness of these tools is intrinsically linked to their validity, as they must reliably guide best practices based on scientific evidence⁽³⁾.

Emergency care settings involve clinical situations that require immediate intervention, as patients may rapidly deteriorate or progress to life-threatening conditions. Therefore, it is essential that health care teams are adequately prepared and follow protocols that can be correctly applied in practice^(2,4). Research on clinical protocols, particularly studies addressing their validity, evaluates the effectiveness of these guidelines in real-world clinical situations encountered in emergency settings⁽⁵⁾.

Protocol validation assesses whether the expected outcomes have been achieved, the coherence of protocol application, and the need for adaptations according to clinical circumstances. The concept of validity in clinical nursing protocols encompasses different perspectives and approaches. In this context, content validity stands out, as it refers to the evaluation of protocol items regarding their agreement with emergency care guidelines⁽¹⁾.

Validated instruments are also valuable because they allow the identification of strengths and weaknesses in emergency nursing practices and policies⁽⁶⁻⁷⁾. Construct validity is another relevant concept, as it relates to the protocol's ability to accurately measure the phenomena or clinical situations it is intended to address⁽⁸⁾. Predictive validity, in turn, focuses on the protocol's capacity to correctly anticipate possible outcomes, complications, and the clinical course of the patient^(1,9).

Therefore, scientific production on the validity of clinical nursing protocols in emergency care is highly relevant, as it contributes not only to patient safety but also to the entire health care team by pro-

moting improvements in the quality of care provided. This body of knowledge enhances clinical practices and outcomes within health services⁽¹⁰⁻¹¹⁾.

Studies such as this are essential for the advancement of nursing as a profession, enabling more humanized and effective patient care in emergency settings. Accordingly, the aim of this study was to analyze the evidence of validity in clinical nursing protocols used in emergency care.

Methods

Study design

This integrative review was conducted in six stages: formulation of the guiding question; database searching; selection of studies based on inclusion and exclusion criteria; data extraction and categorization; critical analysis and interpretation of results; and integrative synthesis of the knowledge produced⁽¹²⁾. The study protocol was registered with the Open Science Framework under the DOI: <https://doi.org/10.17605/OSF.IO/P8QWF>.

Guiding question

The guiding question was developed using the PICO acronym, structured as follows: P (Population/Problem): clinical nursing protocols; I (Phenomenon of Interest): evidence of validity of instruments and validation processes; and Co (Context): urgent and emergency care. Based on this framework, the guiding question was defined as: What is the scientific production regarding evidence of validity in clinical nursing protocols in urgent and emergency care?

Eligibility criteria

Inclusion criteria comprised methodological studies and studies addressing types of clinical nursing protocols in emergency care, with no restrictions on language or publication period. Studies that did not answer the guiding question were excluded.

Search and selection of studies

Search strategies were structured through combinations of descriptors and keywords, using the Boolean operators OR and AND. Medical Subject Headings (MeSH), Cumulative Index to Nursing and Allied Health Literature (CINAHL) Headings, and Health Sciences Descriptors (in Portuguese) were consulted to select the search terms (Figure 1).

The bibliographic search was conducted in the

following databases: Medical Literature Analysis and Retrieval System Online (MEDLINE) via PubMed; CINAHL; Scopus; *Base de Dados em Enfermagem* (BDENF); and *Literatura Latino-Americana e do Caribe em Ciências da Saúde* (LILACS) via the Virtual Health Library. To include gray literature, searches were also performed in the Brazilian Digital Library of Theses and Dissertations. Search strategies applied across the databases, bibliographic index, and library are presented in Figure 2.

Descriptors	Population (P)	Phenomenon of interest (I)	Context (Co)
Health Sciences Descriptors	Protocolos Clínicos Avaliação em Enfermagem	Estudo de Validação	Urgência; Urgências
Keywords	Protocolo Clínico; Protocolo de Tratamento; Protocolos de Tratamento; Protocolos de Enfermagem	Estudos de Validação; Validação; Validade; Evidências de validade	Emergência; Urgência; Urgências
MeSH and CINAHL Headings	Clinical Protocols Nursing Assessment	Validation Study	Emergencies
Keywords	Clinical Protocol; Protocol, Clinical; Protocols, Clinical; Treatment Protocol; Protocols, Treatment; Assessment, Nursing; Assessments, Nursing; Nursing Assessments; Protocols, Nursing; Nursing Protocol; Protocol, Nursing; Nursing Protocols	Validation Studies; Validation; Validity; Validity evidence	Emergency; Urgency

Figure 1 – Descriptors and keywords identified in controlled vocabularies. Teresina, PI, Brazil, 2025

Databases	Search strings
MEDLINE	((((((((((((((("clinical protocols"[MeSH Terms]) OR ("Clinical Protocol")) OR ("Protocol, Clinical")) OR ("Protocols, Clinical")) OR ("Treatment Protocol")) OR ("Protocols, Treatment")) OR ("Nursing Assessment"[MeSH Terms]) OR ("Assessment, Nursing")) OR ("Assessments, Nursing")) OR ("Nursing Assessments")) OR ("Protocols, Nursing")) OR ("Nursing Protocol")) OR ("Protocol, Nursing")) OR ("Nursing Protocols")) AND (((("Validation Study") OR ("Validation Studies")) OR ("validation"[All Fields]) OR ("validity"[All Fields]) OR ("validity evidence"[All Fields])) AND (((("emergencies"[MeSH Terms]) OR ("emergency"[All Fields]) OR ("urgency"[All Fields]))
CINAHL	"Clinical Protocols" OR "Clinical Protocol" OR "Protocol, Clinical" OR "Protocols, Clinical" OR "Treatment Protocol" OR "Protocols, Treatment" OR (MH "Nursing Assessment") OR "Assessment, Nursing" OR "Assessments, Nursing" OR "Nursing Assessments" OR "Protocols, Nursing" OR "Nursing Protocol" OR "Protocol, Nursing" OR (MH "Nursing Protocols") AND "Validation Study" OR (MH "Validation Studies") OR "Validation" OR (MH "Validity") OR "Validity evidence" AND "Validation Study" OR (MH "Validation Studies") OR "Validation" OR (MH "Validity") OR "Validity evidence"
SCOPUS	((ALL ("Clinical Protocols") OR ALL ("Clinical Protocol") OR ALL ("Protocol, Clinical") OR ALL ("Protocols, Clinical") OR ALL ("Treatment Protocol") OR ALL ("Protocols, Treatment") OR ALL ("Nursing Assessment") OR ALL ("Assessment, Nursing") OR ALL ("Assessments, nursing") OR ALL ("Nursing Assessments") OR ALL ("Protocols, Nursing") OR ALL ("Nursing Protocol") OR ALL ("Protocol, Nursing") OR ALL ("nursing, protocols")) AND ((ALL ("Validation Study") OR ALL ("Validation Studies") OR ALL (validation) OR ALL (validity) OR ALL ("Validity evidence")) AND ((ALL (emergencies) OR ALL (emergency) OR ALL (urgency)))
BDENF and LILACS	((mh:("Protocolos Clínicos")) OR ("Protocolo Clínico") OR ("Protocolo de Tratamento") OR ("Protocolos de Tratamento") OR (mh:("Avaliação em Enfermagem")) OR ("Protocolos de Enfermagem") OR (protocolo)) AND ((mh:("Estudo de Validação")) OR ("Estudos de Validação") OR (validação) OR (validade) OR ("Evidências de Validade")) AND ((mh:(emergências)) OR (emergência) OR (urgência) OR (urgências)) AND db:("LILACS" OR "BDENF") AND instance:"lilacplus"
BDTD	"protocol" OR "validity evidence" OR "urgency"

BDTD: Brazilian Digital Library of Theses and Dissertations

Figure 2 – Search strategies applied across databases, bibliographic index, and library. Teresina, PI, Brazil, 2025

Thus, controlled vocabularies were applied according to each source: MeSH terms were used in searches conducted in the MEDLINE and SCOPUS databases; CINAHL Headings were used in the CINAHL database; and Health Sciences Descriptors were applied in BDNF and LILACS. The combination of search terms was adapted to the specific characteristics of each database, bibliographic index, and library.

In addition, a manual search of the reference lists of the studies included in the sample was performed to broaden the search and identify relevant studies for potential inclusion. Database, bibliographic index, and library searches were conducted on November 20, 2024, through the *Journals Portal of the Coordenação de Aperfeiçoamento de Pessoal de Nível Superior*, using remote access via the Federated Academic Community (CAFe for short, in Portuguese) and institutional access through *Universidade Federal do Piauí*.

All studies identified through the search strategies were imported into the Rayyan[®] reference management software, developed by the Qatar Computing Research Institute, for duplicate removal and study selection⁽¹³⁾.

Study selection was carried out in two stages. In the first stage, titles and abstracts of the identified studies were screened, and the inclusion and exclusion criteria were applied. Eligible studies then proceeded to the second stage, which consisted of full-text reading, followed by a reapplication of the inclusion and exclusion criteria. Evidence was summarized independently by two reviewers, and disagreements were resolved by a third reviewer to reach a final consensus. Studies retrieved from the gray literature followed the same standardized selection process applied to the published literature.

Data collection and analysis

Data were collected using an instrument deve-

loped by the authors, which included the following variables: year of publication; authors' country of origin; journal; study type; and main findings related to emergency protocols in nursing care.

After a thorough analysis of the articles included in this review, three categories were developed and summarized based on the results identified: i) methodological aspects of protocol validation; ii) characteristics of evidence related to clinical nursing protocols in accordance with the included studies; and iii) applicability and effectiveness of validated protocols in emergency nursing practice.

Ethical aspects

As this review study was based exclusively on data from publicly available sources, it was not submitted for review by a research ethics committee.

Results

The search strategies identified a total of 10,616 studies, including 80 from LILACS, 7,180 from SCOPUS, 163 from MEDLINE, 3,156 from CINAHL, and 37 from BDTD. After removal of duplicates and application of the eligibility criteria, 10 studies were selected for inclusion. The process of study identification, screening, and inclusion is presented in Figure 3.

Through the manual search of the reference lists of the included studies, three additional studies that addressed the research question were identified. Consequently, the final sample comprised 10 studies. The included studies were published between 2014 and 2024; all of them were conducted in Brazil and published in nursing journals. Regarding language, 100% of the studies were written in Portuguese. In terms of study design, all studies were methodological (Figure 4).

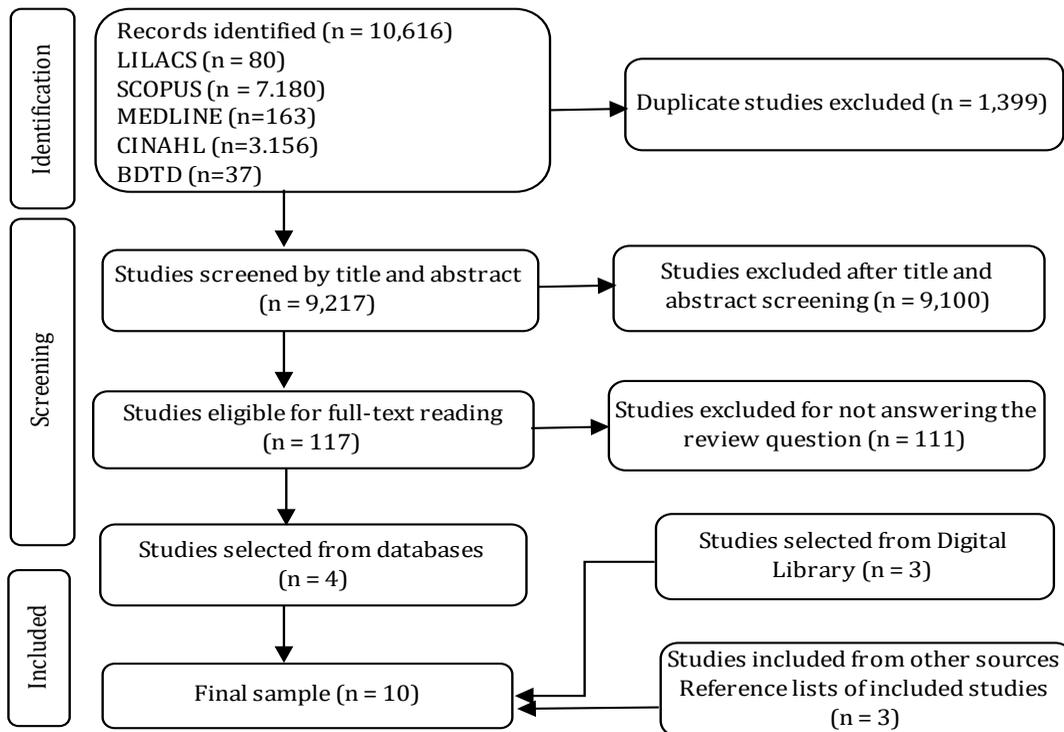


Figure 3 – Flowchart of study selection. Teresina, PI, Brazil, 2025

Authors / Year	Study Type / Journal	Main Findings / Interventions	Validation Method Used
Silva et al 2014 ⁽¹⁴⁾	Methodological Rev Latino-Am Enfermagem	The developed protocol demonstrated excellent content validity and reliability.	- Expert validation - CVI
Veras et al 2015 ⁽¹⁵⁾	Methodological Rev Bras Enferm	The study resulted in a pediatric risk classification guide considered valid for assessing children in emergency services.	- Expert and face validation; CVI
Andrade 2017 ⁽¹⁶⁾	Methodological Master's thesis	The admission protocol proved to be effective in the care of older adults treated in emergency services.	- CCR
Gomes et al 2018 ⁽¹⁷⁾	Methodological Acta Paul Enferm	The study showed that all protocol evaluation requirements achieved inter-rater agreement greater than 80.0%.	- Delphi technique - CVI; Cronbach's alpha
Miranda et al 2018 ⁽¹⁸⁾	Methodological Rev Latino-Am Enfermagem	The study demonstrated expert consensus on competency frameworks for adult patient recovery using the airway, breathing, and circulation approach in traumatic and non-traumatic emergency situations.	- Expert validation - CVI - Snowball and Delphi techniques
Scolari et al 2022 ⁽¹⁹⁾	Methodological Acta Paul Enferm	The developed and validated protocol was safe for use in the care of older adults in Emergency Care Units, with a CVI greater than 0.80.	- Expert validation - CVI
Gonçalves et al 2024 ⁽²⁰⁾	Methodological Rev Enf Ref	The study validated the content of a protocol for collecting forensic evidence in emergency services, achieving a CVI of 0.89.	- Delphi technique - CVI
Manfredini et al 2024 ⁽²¹⁾	Methodological Einstein (São Paulo)	EMOnco was shown to be a valid and reliable tool for risk classification of oncology patients in emergency services.	- Expert validation - CVI; Delphi technique - Construct validity
Pizzolato et al 2023 ⁽²²⁾	Methodological Rev Enferm UFSM	The instrument for recording the Nursing Process in Mobile Emergency Care Services was considered valid for use.	- Expert validation - CVI
Pires 2006 ⁽²³⁾	Methodological PhD dissertation	The "Canadian Triage and Acuity Scale" protocol proved to be reliable for use in emergency settings.	- Expert validation - Kappa coefficient

CVI: Content Validity Index; CCR: Convergent Care Research; EMOnco: Emergency Oncology Scale

Figure 4 – Summary of studies included in the integrative review according to authorship, year, journal, study type, main findings, and validation method. Teresina, PI, Brazil, 2025

The scientific publications analyzed on evidence of validity of clinical protocols in emergency care employed the Content Validity Index (CVI) in 9 studies (90%), expert panels in 7 studies (70%), the Delphi technique in 4 studies (40%), Convergent Care Research (CCR) in 1 study (10%), snowball sampling in 1 study (10%), the kappa coefficient in 1 study (10%), face validity in 1 study (10%), Cronbach's alpha in 1 study (10%), and construct validity in 1 study (10%).

Given the plurality of approaches to the topic, the scientific evidence was grouped into three categories: i) methodological aspects of protocol validation; ii) characteristics of evidence related to clinical nursing protocols in accordance with the included studies; and iii) applicability and effectiveness of validated protocols in emergency nursing practice. Figure 5 presents the descriptive syntheses of the studies included in the review.

<p>i) Methodological aspects of protocol validation</p> <ul style="list-style-type: none"> - Content validity index of the selected studies showed high values, indicating consensus among experts; - Likert-type scales were used to measure construct-related aspects and demonstrated good agreement among evaluators; - Delphi technique and consensus validation highlighted consensus and stability of responses; - Snowball sampling was found to be useful for identifying participants with the knowledge, profile, or experience required for the methodological stage of the study; - Face validity and construct validity showed that the evaluated protocol items were understandable, clear, relevant, and appropriate to the intended context and population; - Kappa coefficient demonstrated effective reproducibility and consistent inter-rater reliability of the protocols; - Convergent care research showed integration of the research process with the care context, involving health professionals in the development and validation of instruments for patient care; - Cronbach's alpha indicated excellent internal consistency.
<p>ii) Characteristics of evidence related to clinical nursing protocols in accordance with the included studies</p> <ul style="list-style-type: none"> - Should be based on scientific evidence; - Grounded in the quality, quantity, and consistency of the reviewed studies; - Supports decision-making; - Enables nurses to move away from non-systematized practices; - Contributes to strengthening nurses' critical judgment in response to operational demands.
<p>iii) Applicability and effectiveness of validated protocols in emergency nursing practice</p> <ul style="list-style-type: none"> - The studies were developed in emergency units, emergency care units, prehospital emergency services, and hospital units; - From the perspective of expert judges and the target population, the findings showed that the protocols were effective and reliable for use in emergency care settings and, consequently, for contributing to clinical nursing practice.

Figure 5 – Synthesis of evidence on the validity of clinical protocols in emergency care. Teresina, PI, Brazil, 2025

Discussion

Considering the growing number of instruments available to assess reliability and various health outcomes for use in research, clinical practice, and population health evaluation, some of these instruments do not undergo sufficiently rigorous validation processes, according to the literature, which compromises the quality of care⁽²⁴⁻²⁷⁾. Therefore, strategies are needed to address this issue, particularly in emergency services. Such strategies can be achieved through

the engagement of different stakeholders with expertise in the field, thereby promoting greater safety and uniformity in care delivery.

The use of the CVI, expert panels, the kappa coefficient, and Cronbach's alpha are considered relevant tools for structuring the entire methodological process. Studies that applied these methods in the development of risk classification protocols and stress assessment instruments in intensive care units for pediatric and adult populations reported reliable results. These findings contribute to the definition of care prac-

tices that improve and guide nursing practice^(10,28-29).

In addition, content validity has been applied to protocols designed to assess children in emergency settings in a precise manner, supporting actions grounded in scientifically proven evidence⁽²⁹⁾. Moreover, content validation of the instruments analyzed is appropriate for assessing health-related knowledge and serves as a foundation for research involving the development of protocols aimed at reducing overcrowding in emergency services⁽³⁰⁾. The use of protocols also contributes to patient and professional satisfaction and safety in emergency care settings⁽³¹⁾.

To be considered suitable for use, instruments must provide accurate, valid, and interpretable data. The implementation of psychometric properties is directly related to the reliability and validity of these instruments⁽³²⁾. In this context, there is a clear need for initiatives that raise nurses' awareness of the importance of using robust instruments in care delivery. Furthermore, such initiatives should be regarded as imperative within emergency services.

Emergency care settings often serve as the main entry point into health services, leading individuals to seek immediate resolution of health problems⁽³³⁾. Protocols are defined as guidelines developed to reduce variability in clinical practice⁽³⁴⁾. Additionally, they support the management of health problems in specific situations based on the best available scientific evidence, such as the care of trauma patients, while also providing legal support for nursing practice⁽³⁵⁾.

Furthermore, protocols have been shown to reduce information asymmetry, draw attention to health problems, and serve as educational tools for future health professionals. It is believed that emergency care protocols can promote quality of care by supporting nursing actions, enhancing safety for patients and health professionals, and guiding nurses' decision-making without restricting their professional autonomy.

The absence of accurate and easily interpretable data negatively affects the safe use of information. A study aimed at increasing knowledge about kidney disease during the dialysis phase showed that most

patients begin treatment in an unplanned manner due to the absence of clinical protocols⁽²⁵⁻²⁶⁾. In this regard, to fully operationalize the objectives of care services, the development of institutional instruments, such as protocols, becomes necessary to identify weaknesses and facilitate the achievement of proposed goals.

Although mechanisms exist to support the safe adoption of protocols developed in methodological studies, their application remains limited. The lack of such resources is detrimental to both professionals and health system users, often increasing the likelihood of errors and compromising the quality of care. Therefore, there is an urgent need for in-depth discussions between health institutions and nurses to strengthen continuing education processes related to the implementation of properly validated protocols, particularly in emergency settings.

Nursing faces several challenges in the validation of clinical protocols, such as low adherence among nurses to training programs on the use of Pediatric Risk Classification and Reception Protocols. Another reported difficulty is the limited involvement of health managers in implementing these protocols in pediatric emergency services, as professionals often encounter reduced staffing levels and a lack of adequate materials for performing physical examinations of children and adolescents in urgent and emergency situations⁽¹⁵⁾.

In emergency settings and across various health sectors, the participation of experienced professionals in research is highly relevant, as they contribute effectively to the validation of assessment instruments applied in clinical practice. For this process to occur appropriately, adequate funding, a sufficient and qualified workforce, and infrastructure compatible with service needs are essential, encompassing physical, human, material, and financial resources, all of which are necessary to ensure appropriate health care delivery⁽²⁾.

The provision of high-quality care is directly associated with the use of standardized instruments, as observed in the development and validation of risk classification protocols in emergency care. From this

perspective, continuous and systematic use of these instruments is essential to improve application skills, prevent errors, identify difficulties, and propose improvements, thereby achieving progressively enhanced care⁽¹⁴⁾.

In pediatric risk classification, as in many other areas of health care, low adherence among judges during the protocol validation process represents another challenge. This often results from the time demands inherent to this type of work, which prolong the processes of protocol development and validation⁽³⁰⁾.

Other challenges in nursing care include excessive workloads, communication failures, inadequate team skills, nursing care errors, lack of workflow standardization, insufficient support for nursing regulations, protocol failures, overcrowding, violence against professionals perpetrated by patients or their families, stress, and fatigue⁽³⁶⁾.

Information is an indispensable factor in the relationship between professionals and service users in emergency care⁽³⁷⁾ and in health care overall. Thus, limited professional knowledge regarding care instruments often restricts nursing practice⁽³⁸⁾, and these challenges negatively affect team performance, hindering the ability to ensure greater safety in the care provided to patients.

Limitations of study

The limitations of this study include the predominance of methodological studies, which restricts a deeper understanding of the implementation, practical applicability, and challenges associated with the use of protocols in real-world emergency settings. This highlights the need for studies with other designs to better understand evidence related to protocols in emergency care. Another limitation concerns the number of studies identified, as all were conducted nationally. The knowledge gaps identified relate to the scarcity of international studies on emergency protocols,

particularly those led by nurses. Therefore, further studies on the development and validation of clinical protocols related to nursing care in emergency settings are recommended across different global contexts.

This scenario underscores the need to expand research on this topic, encouraging scientific production that strengthens the role of nursing in the development and validation of care protocols, both in emergency situations and in other areas of practice.

Contributions to practice

Clinical nursing protocols that undergo validation processes have proven to be safe and suitable for use in clinical practice, as they provide standardized guidelines that enhance the quality of care. For health care in general, and nursing in particular, this represents an advancement in scientific knowledge by strengthening the empirical basis for the validity of protocols used in emergency settings, thereby contributing to the development of evidence-based practices.

In addition, the findings reinforce the importance of incorporating rigorous validation methodologies in the development of new protocols, fostering scientific production and technological innovation in nursing, standardizing care, and strengthening nurses' leadership in care management in critical situations.

Conclusion

The nursing protocols evaluated were validated through expert assessment, either in a simplified manner or using consensus-based methods such as the Delphi technique, the kappa coefficient, and convergent care research. Regarding result analysis, there was a predominance of the use of the content validity index. Furthermore, the studies adopted methodological designs, demonstrating concern for scientific rigor in the development and validation of protocols.

Authors' contributions

Study conception and design, data analysis and interpretation: **Oliveira RKC, Aguiar JS, Lira JAC**. Manuscript drafting; critical revision of relevant intellectual content; final approval of the version to be published; and agreement to be accountable for all aspects of the work related to ensuring the accuracy or integrity of any part of the manuscript are appropriately investigated and resolved: **Oliveira RKC, Aguiar JS, Freitas DRJ, Lira JAC, Santos AMR**.

Data availability

The authors declare that data are fully available within the article.

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