Original Article

Construction and validity analysis of a questionnaire to assess knowledge of Forensic Nursing for nurses

Construção e análise de validade de questionário de avaliação do conhecimento em Enfermagem Forense para enfermeiros

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ABSTRACT

Objective: to construct and analyze evidence of the content validity of a questionnaire to assess nurses' knowledge of Forensic Nursing. **Methods:** a psychometric study is used to build and analyze evidence of content validity. The Forensic Nursing Competency Matrix was used to construct the items. The questionnaire was divided into significant areas of activity, and the items were organized according to *Likert-type* comprehensiveness analysis. The judges' Content Validity Index was used for the validity analysis. **Results:** the self-administered digital questionnaire contains 14 sociodemographic and work-related items and 117 items on forensic nursing competencies, organized into categories aligned with the areas of practice defined by the Federal Nursing Council. Content validity was confirmed by indices between 0.80 and 1.00, attesting to the pertinence and relevance of the items. **Conclusion**: the questionnaire was considered to be fit for purpose and valid in terms of content. **Contributions to practice:** the questionnaire could assess forensic nursing competencies in primary health care and be adapted to other areas.

Descriptors: Forensic Nursing; Professional Competence; Primary Health Care; Psychometrics; Nurses, Male.

RESUMO

Objetivo: construir e analisar as evidências de validade de conteúdo de questionário para avaliação do conhecimento de enfermeiros sobre Enfermagem Forense. **Métodos:** estudo psicométrico de construção e análise de evidências de validade de conteúdo. Para a construção dos itens, foi utilizada a Matriz de Competências de Enfermagem Forense. O questionário foi elaborado por grandes áreas de atuação e os itens organizados segundo análise de abrangência, tipo *Likert*. Para a análise de validade adotou-se o Índice de Validade de Conteúdo dos juízes. **Resultados:** o questionário digital autoaplicável possui 14 itens sociodemográficos e laborais, e 117 itens sobre competências em Enfermagem Forense, organizados em categorias alinhadas às áreas de atuação definidas pelo Conselho Federal de Enfermagem. A validade de conteúdo foi confirmada por índices entre 0,80 e 1,00, atestando a pertinência e relevância dos itens. **Conclusão**: o questionário foi considerado adequado ao propósito e válido em relação ao conteúdo. **Contribuições para a prática:** o questionário poderá ser aplicado para avaliar as competências de Enfermagem Forense, na Atenção Primária à Saúde, podendo ser adaptado a outras áreas.

Descritores: Enfermagem Forense; Competência Profissional; Atenção Primária à Saúde; Psicometria; Enfermeiros.

Introduction

Nursing is one of the largest categories of health professionals worldwide and has played a key role in advancing science and technology, especially in forensic science[1]. As a result, the specialty of Forensic Nursing emerged, which aims to assist people in situations of violence, including victims, aggressors, and family members[2]. To work in this area, nurses must receive specific training and qualifications in providing health services effectively, regardless of whether they are specialists in the area[3].

In this context, nurses play a crucial role as frontline professionals in caring for victims of violence, both in emergency services and in Primary Health Care (PHC). Their role as first contact with victims is diverse in different Brazilian Unified Health System areas, highlighting the need for specific training to deal with such complex situations[4].

The creation and development of psychometric instruments are widely used in various fields, especially in the health area. These instruments are designed to collect information on specific topics[5]. During the development process, it is crucial to follow fundamental methodological steps to guarantee satisfactory results in clinical practice and research. These steps include defining objectives and target populations, designing the instrument, selecting, organizing, structuring, analyzing validity evidence and pilot testing[5-6].

Nurses' use of psychometric instruments requires skills and knowledge in choosing methodological references and types to assess their reliability and validity[7]. In addition, the instrument must be based on the reference used during its development, demonstrating the relevance of its progress and defining the target audience so that it can be empirically understood by researchers[8].

When evaluating the reliability of psychometric instruments, it is essential to consider their quality of use. The researcher must select instruments that have shown satisfactory results in their validations while also ensuring that they are continually updated[9-10].

Psychometric references in nursing are cons-

tantly evolving, significantly impacting the creation of instruments that contribute to improving patient care[6,11]. To guarantee the reliability and validity of the instrument, it is essential to have the participation of judges to evaluate the items proposed by the researchers[8].

There is a scarcity of studies on the construction and analysis of validity evidence for psychometric instruments in the field of Forensic Nursing[12-13]. To date, no instrument has been developed to assess nurses' knowledge in this specialty based on the eight areas of competence established by the Federal Nursing Council (*Conselho Federal de Enfermagem* - COFEN), as follows: sexual violence; the prison system; psychiatry; forensics, technical assistance and consultancy; collection, gathering and preservation of traces; post-mortem; mass disasters, humanitarian missions and catastrophes; mistreatment, trauma and other forms of violence throughout the life cycle[14].

The proposed questionnaire will serve as a resource for the scientific community in evaluating knowledge in Forensic Nursing, both in education and practice, since the capacity and experience of Forensic Nursing should be strengthened through education[15]. Constructing and analyzing evidence of the validity of this questionnaire is fundamental to guaranteeing the reliability and validity of the instrument[16], given that this area is new in the academic literature. By measuring competencies that link practice to forensic aspects[17], the study significantly contributes to the training and development of care. In addition to filling existing gaps, the questionnaire could be used in training courses and evaluating continuing education programs, thus promoting professional development. Therefore, this study aimed to construct and analyze evidence of the content validity of a questionnaire to evaluate nurses' knowledge of forensic nursing.

Methods

This psychometric study was carried out in two stages: development of the questionnaire and analysis of evidence of content validity[16,18]. The questionnaire

was developed in the second half of 2022. To construct the items, the Forensic Nursing Competency Matrix was used, which includes 29 general competencies and 37 specific competencies, distributed over eight major areas[14]. It was decided to group two areas of competence - the prison system and forensics, technical assistance, and consultancy - into a single category called "B," related to crime. This grouping was made due to the connection between the competencies of these areas, which are focused on activities such as carrying out expert examinations, assisting in the prison system, handling legal aspects, and preparing documentation, including expert reports, bulletins, and notifications.

The competencies were subdivided, and the emerging themes were grouped according to identification, assessment, intervention, knowledge, and expert notions. In this way, the questionnaire was made up of the following sections: physical, psychological and/or emotional, sexual and domestic/family violence; crime; Brazilian legislation; ethics and bioethics; mental and behavioral disorders; mass disasters, catastrophes, and humanitarian missions; and interpersonal relationships between victims and perpetrators related to Forensic Nursing.

Because the competencies are not specified in the major areas of Forensic Nursing practice, a parallel study based on the literature was carried out to categorize the items/competencies using content analysis[19].

The literature used as support was located through data sources such as the Virtual Health Library Brazil (BVS) and the Portal of the Coordination for the Improvement of Higher Education Personnel Foundation (*Coordenação de Aperfeiçoamento de Pessoal de Nível Superior* - CAPES): Latin American and Caribbean Health Sciences Literature (LILACS, *Medical Literature and Retrieval System Online* (MEDLINE) via PUBMED, Scientific Electronic Library Online (SCIELO) and Web of Science (WoS). In addition, Google Scholar, Google Books, and specific sites were explored, such as the International Association of Forensic Nursing, the Brazilian Association of Forensic

Nursing, the Portuguese Association of Forensic Nursing, the Brazilian Society of Forensic Nursing, and the Brazilian Digital Library of Theses and Dissertations. Due to the scarcity of primary and secondary articles, the review included sources of gray literature, such as official documents. The official documents analyzed include Brazilian legislation (the Civil and Penal Codes on violence), the Nursing Code of Ethics, and technical manuals from the Ministries of Health and Justice, which deal with welcoming and assisting victims of violence.

The search used controlled and non-controlled descriptors in Health Sciences (DeCS), Medical Subject Headings from the U.S. National Library of Medicine (MeSH), and WOS: Professional Competence; Forensic Nursing and Competency Matrix.

This study compiled the competencies into three strands: identification, assessment, and intervention. Identification consists of systematically obtaining subjective and objective data; assessment aims to analyze health status, identify risks, and establish a therapeutic relationship and nursing diagnosis; and intervention refers to actions based on scientific principles aligned with the diagnosis and with predefined goals[20]. To this end, coding, classification and categorization procedures were adopted, respecting the following content analysis criteria for preparing the proposed items: objectivity, simplicity, clarity, relevance, precision, variety, modality, typicality, credibility, breadth and balance[16].

A self-administered 135-item digital questionnaire was developed in two blocks to evaluate nurses' knowledge of forensic nursing. The first block was designed to gather sociodemographic and professional information. This block was divided into two parts: a) Sociodemographic identification: it included variables such as gender (1), age (2), ethnicity (3), marital status (4), children (5), schooling (6), family income (7) and religious belief (8) and b) Professional characterization: it included variables such as professional training (9), position in the municipality (10), working time (11), weekly workload (12), shift (13) and other employment (14).

The second block dealt with the structure and items related to Forensic Nursing competencies. Each category was subdivided into identification, assessment, intervention, knowledge, and expert notions, covering areas such as a) typologies of violence, b) criminality, c) Brazilian legislation, d) ethics and bioethics, e) mental and behavioral disorders, f) mass disasters, catastrophes and humanitarian missions, and g) interpersonal relationships. The answers to this block were arranged on a five-level *Likert* scale: strongly disagree, partially disagree, neither disagree nor agree, agree, and strongly agree.

The second stage took place in the first half of 2023. In this stage, evidence of content validity was analyzed in terms of relevance and appearance. To avoid impasses and facilitate decision-making, a psychometric instrument should be validated by a minimum of five judges, preferably an odd number[16].

For the validation stage, judges were selected because of *expertise* in forensic nursing and/or experience in validating instruments, and a minimum doctorate in related areas. Considering these two criteria, a survey was carried out by the Brazilian Society of Forensic Nursing to see what *expertise* there was in the area. As for experience in validating instruments and qualifications, a search was made on the *Lattes* Platform of the National Council for Scientific and Technological Development. The final selection was made by convenience sampling, meaning the judges were chosen based on availability and accessibility.

They received the invitation via individualized e-mail containing the Informed Consent Form and the table for analyzing evidence of content and appearance validity. They were previously provided with guidance, and a deadline of 15 days was set for the analysis and return to the authors. Of the nine judges invited, four did not respond within the deadline. As a result, the content validity analysis was conducted with five judges, corresponding to the literature recommendations[16].

The judges' opinions were analyzed using the Content Validity Index (CVI), which considered acceptable suggestions with at least 0.80 agreement[21].

The CVI was calculated by adding the judges' "totally agree" and "agree" responses, multiplying by 100, and dividing by the total number of responses. When the index reached 0.80 or more, the item was considered valid. After the first round had been collected, the opinions were compiled, and the items were readjusted. They were sent back to the judges for refinement and compliance. There was unanimous agreement on the reformulation.

The questionnaire was entitled "Evaluation of Nurses' Knowledge of Forensic Nursing in the Care of Victims and Perpetrators of Violence." It was developed to collect data for doctoral research carried out by the author. This study evaluated PHC nurses' knowledge of Forensic Nursing, considering its strategic role in violence care. The link between these professionals and the community also favors significant contributions to other sectors, such as education, social assistance, and justice[4].

This research was approved by the Research Ethics Committee of the Federal University of Alfenas under the guidelines established in National Health Council Resolution No. 466/2012, under Opinion No. 5,880,372/2023. The Certificate of Presentation for Ethical Appreciation: 65613222.9.0000.5142 was granted, attesting to the project's ethical adherence.

Results

The five judges, all nurses, were primarily female, with an average age of 42, and lived in the Southeast and Center-West regions. Four were specialists in forensic nursing, and one was in urgent care and emergency care. In addition, three were experts in analyzing valid evidence. They all worked in teaching and research, with professional experience of between 10 and 20 years.

The questionnaire, with 135 items in two blocks, assesses sociodemographic/labor data (14 items) and knowledge of Forensic Nursing (121 items). The judges made no changes to the first block.

The content validity analysis in Tables 1 to 3 showed good CVIs for most items, with adjustments

or exclusions for items with lower scores. The first round, aimed at validating the questionnaire, led to changes: in Table 1, items 2 and 3 were modified, sub-item 4.3 was deleted, item 4.4 was specified, sub--item 5.2 was deleted, and items 6.5 to 6.8 were expanded.

Table 1 – Content validity index of the items referring to the assessment of nurses' knowledge of typologies of violence and crime. Alfenas, MG, Brazil, 2024

Proposed items for the questionnaire	1st round CVI*			2nd round CVI		
	Appea- rance	Exper- tise	Rele- vance	Appea- rance	Exper- tise	Rele- vance
1 I know how to identify people in situations of violence	1.0	1.0	1.0	1.0	1.0	1.0
1.1 Physical	1.0	1.0	1.0	1.0	1.0	1.0
1.2 Psychological/emotional	1.0	1.0	1.0	1.0	1.0	1.0
1.3 Sexual	1.0	1.0	1.0	1.0	1.0	1.0
1.4 Domestic/family	1.0	1.0	1.0	1.0	1.0	1.0
2. I know about assessing people in situations of violence	0.4	1.0	1.0	0.8	1.0	1.0
2.1 Physical	1.0	1.0	1.0	1.0	1.0	1.0
2.2 Psychological/emotional	1.0	1.0	1.0	1.0	1.0	1.0
2.3 Sexual	1.0	1.0	1.0	1.0	1.0	1.0
2.4 Domestic/family	1.0	1.0	1.0	1.0	1.0	1.0
3. I know how to intervene in situations of violence	0.6	1.0	1.0	0.8	1.0	1.0
3.1 Physical	0.8	1.0	1.0	0.8	1.0	1.0
3.2 Psychological/emotional	0.8	1.0	1.0	0.8	1.0	1.0
3.3 Sexual	0.8	1.0	1.0	0.8	1.0	1.0
3.4 Domestic/family	0.8	1.0	1.0	0.8	1.0	1.0
4. I am aware of the identification of	0.8	1.0	1.0	0.8	1.0	1.0
4.1 perpetrators of violence	0.8	1.0	1.0	0.8	1.0	1.0
4.2 people with violent behavior	1.0	1.0	1.0	1.0	1.0	1.0
4.3 people with criminal behavior	1.0	1.0	1.0	–	–	–
4.4 abortion or attempted or completed abortion	1.0	0.8	1.0	1.0	1.0	1.0
5. I know about assessing people in situations of violence:	0.8	0.8	0.8	0.8	0.8	0.8
5.1 Forensic Medical Institute in expert physical examination in criminal cases	0.8	0.8	1.0	0.8	0.8	1.0
5.2 Perpetrators being victims of violence in the prison system (attempted murder, rape, ill-treatment and torture)	0.8	0.4	1.0	–	–	–
6. I know how to intervene in situations of violence:	1.0	1.0	1.0	1.0	1.0	1.0
6.1 At the Forensic Medical Institute in physical forensic examination in criminal cases	0.8	1.0	1.0	0.8	1.0	1.0
6.2 Collecting biological material for examinations of victims of violence	0.8	1.0	1.0	0.8	1.0	1.0
6.3 Storing biological material for examining victims of violence	0.8	1.0	1.0	0.8	1.0	1.0
6.4 Forwarding biological material for examinations of victims of violence	0.8	1.0	1.0	0.8	1.0	1.0
6.5 Collecting forensic evidence in cause-of-death care (homicide)	0.8	1.0	1.0	1.0	1.0	1.0
6.6 Collecting forensic evidence in the care of the cause of death (homicide)	0.8	1.0	1.0	1.0	1.0	1.0
6.7 Documenting and evaluating forensic evidence in the care of cause of death (homicide)	0.6	0.8	1.0	1.0	1.0	1.0
6.8 Evaluating forensic evidence in the care of the cause of death (homicide)	0.8	1.0	1.0	1.0	1.0	1.0
6.9 People in custody	0.8	1.0	1.0	0.8	1.0	1.0
6.10 Perpetrators who are victims of violence in the prison system (attempted murder, rape, ill-treatment and torture)	0.8	1.0	1.0	0.8	1.0	1.0
6.11 Referrals to specific bodies (Guardianship Council, Council for the Elderly, Women's Police Station, among others)	0.8	1.0	1.0	0.8	1.0	1.0
6.12 Making a police report	0.8	1.0	1.0	0.8	1.0	1.0
7. I know how to:	1.0	1.0	1.0	1.0	1.0	1.0
7.1 Make expert reports and reports intended for the judiciary on causes related to forensic situations	1.0	1.0	1.0	1.0	1.0	1.0
7.2 Making a police report	1.0	1.0	1.0	1.0	1.0	1.0
7.3 Notify suspected and/or confirmed cases of violence using the Information System for Diseases form	1.0	1.0	1.0	1.0	1.0	1.0

*CVI: Content Validity Index

In Table 2, items 11.1 to 11.4 have been deleted. The modifications included "and/or" (1.2, 2.2, 3.2), "illegal" (4.4), notes (2.0, 3.0), keeping item 16.2 and extending 20.0 to "expert notions." After the adjust-ments, the second round confirmed the effectiveness of the changes, with a CVI between 0.80 and 1.00 and unanimous approval for appearance, pertinence, and relevance.

Table 2 – Content validity index of the items relating to the assessment of nurses' knowledge of typologies of violence and crime. Alfenas, MG, Brazil, 2024

Proposed items for the questionnaire	1st round CVI*		2nd round CVI			
	Appea-rance	Exper-tise	Appea-rance	Exper-tise	Appea-rance	Exper-tise
8. I am aware of	1.0	1.0	1.0	1.0	1.0	1.0
8.1 Maria da Penha Law (Law no. 11.340, August 7, 2006).	1.0	1.0	1.0	1.0	1.0	1.0
8.2 Feminicide Law (Law no. 13.104, of March 9, 2015)	1.0	1.0	1.0	1.0	1.0	1.0
8.3 Statute of the Child and Adolescent (Law No. 8.069, of July 13, 1990)	1.0	1.0	1.0	1.0	1.0	1.0
8.4 Menino Bernardo Law (Law No. 12.845, of August 1, 2013)	1.0	1.0	1.0	1.0	1.0	1.0
8.5 Next Minute Law (Law No. 13.010, of June 24, 2014)	1.0	1.0	1.0	1.0	1.0	1.0
8.6 Joanna Maranhão Law (Law no. 12.650, of May 17, 2012)	1.0	1.0	1.0	1.0	1.0	1.0
8.7 Compulsory notification of suspected cases of violence against women (Law No. 13,931, of December 10, 2019)	1.0	1.0	1.0	1.0	1.0	1.0
8.8 Statute of the Elderly (Law No. 10,741 of October 1, 2003)	1.0	1.0	1.0	1.0	1.0	1.0
8.9 Judicial Expert (Law No. 13.105/2015)	1.0	1.0	1.0	1.0	1.0	1.0
9. I know how to identify people in situations of:	1.0	1.0	1.0	1.0	1.0	1.0
9.1 Imprudence	0.8	1.0	1.0	0.8	1.0	1.0
9.2 Skill	1.0	1.0	1.0	1.0	1.0	1.0
9.3 Negligence	1.0	1.0	1.0	1.0	1.0	1.0
9.4 Mistreatment	1.0	1.0	1.0	1.0	1.0	1.0
10. I know how to assess people in situations of:	1.0	1.0	1.0	1.0	1.0	1.0
10.1 Imprudence	1.0	1.0	1.0	1.0	1.0	1.0
10.2 Skill	1.0	1.0	1.0	1.0	1.0	1.0
10.3 Negligence	1.0	1.0	1.0	1.0	1.0	1.0
10.4 Mistreatment	1.0	1.0	1.0	1.0	1.0	1.0
11. I know how to intervene in situations of violence:	0.8	1.0	1.0	0.8	1.0	1.0
11.1 Imprudence	0.8	0.2	1.0	–	–	–
11.2 Skill	0.8	0.2	1.0	–	–	–
11.3 Negligence	0.8	0.8	1.0	–	–	–
11.4 Mistreatment	0.8	0.8	1.0	–	–	–
11.5 In the legal process	1.0	1.0	1.0	–	–	–
12. I am aware of	1.0	1.0	1.0	1.0	1.0	1.0
12.1 Professional Nursing Code of Ethics regarding duties with violence against children and adolescents, women, the elderly, and disabled people	1.0	1.0	1.0	1.0	1.0	1.0
12.2 Professional secrecy/data security and recording of people in situations of violence	1.0	1.0	1.0	1.0	1.0	1.0
12.3 Ethics and bioethics in nursing practice	1.0	1.0	1.0	1.0	1.0	1.0

*CVI: Content Validity Index

Table 3 shows the CVI indices for knowledge about mental disorders, disasters, and interpersonal relationships in Forensic Nursing. The results of the two rounds of validation carried out with expert jud-ges showed high CVIs (0.80 to 1.00), demonstrating significant agreement on the items' clarity, relevance, and representativeness. The questionnaire was finali-zed with 117 validated items.

Table 3 – Content validity index of items related to knowledge of mental disorders, disasters and interpersonal relationships. Alfenas, MG, Brazil, 2024

Proposed items for the questionnaire	1st round CVI*		2nd round CVI			
	Appearance	Expertise	Appearance	Expertise	Appearance	Expertise
13. I know how to identify people in situations of violence:	1.0	1.0	1.0	1.0	1.0	1.0
13.1 Directed at themselves and others	0.8	1.0	1.0	0.8	1.0	1.0
13.2 Attempted and/or completed suicide	1.0	1.0	1.0	1.0	1.0	1.0
13.3 Using and abusing alcohol and other drugs	1.0	1.0	1.0	1.0	1.0	1.0
14. I know about assessing people in situations of:	1.0	1.0	1.0	1.0	1.0	1.0
14.1 Directed at themselves and others	0.8	1.0	1.0	0.8	1.0	1.0
14.2 Attempted and/or completed suicide	1.0	1.0	1.0	1.0	1.0	1.0
14.3 Using and abusing alcohol and other drugs	1.0	1.0	1.0	1.0	1.0	1.0
15. I know how to identify people in situations of violence:	1.0	1.0	1.0	1.0	1.0	1.0
15.1 Directed at themselves and others	1.0	1.0	1.0	1.0	1.0	1.0
15.2 Attempted and/or completed suicide	1.0	1.0	1.0	1.0	1.0	1.0
15.3 Using and abusing alcohol and other drugs	1.0	1.0	1.0	1.0	1.0	1.0
16. I know about assessing people in situations of:	1.0	1.0	1.0	1.0	1.0	1.0
16.1 People with mental and behavioral disorders who behave violently	1.0	1.0	1.0	1.0	1.0	1.0
16.2 Perpetrators with mental and behavioral disorders	0.8	1.0	1.0	1.0	1.0	1.0
16.3 People with mental and behavioral disorders with a court order	1.0	1.0	1.0	1.0	1.0	1.0
16.4 People with mental and behavioral disorders in criminal situations	1.0	1.0	1.0	1.0	1.0	1.0
16.5 People in compulsory hospitalization	1.0	1.0	1.0	1.0	1.0	1.0
17. I know how to intervene in situations of:	1.0	1.0	1.0	1.0	1.0	1.0
17.1 People with mental and behavioral disorders with violent behavior	1.0	1.0	1.0	1.0	1.0	1.0
17.2 Perpetrators with mental disorders	1.0	1.0	1.0	1.0	1.0	1.0
17.3 People with mental and behavioral disorders with a court order	1.0	1.0	1.0	1.0	1.0	1.0
17.4 People with mental and behavioral disorders in criminal situations	1.0	1.0	1.0	1.0	1.0	1.0
17.5 People in compulsory hospitalization	1.0	1.0	1.0	1.0	1.0	1.0
18. I know how to identify people in situations of:	1.0	1.0	1.0	1.0	1.0	1.0
18.1 Car accidents	1.0	1.0	1.0	1.0	1.0	1.0
18.2 Drowning	1.0	1.0	1.0	1.0	1.0	1.0
18.3 Mass disaster/catastrophes	1.0	1.0	1.0	1.0	1.0	1.0
18.4 Firearm and stab wounds	1.0	1.0	1.0	1.0	1.0	1.0
18.5 Asphyxiation	1.0	1.0	1.0	1.0	1.0	1.0
19. I know about the assessment of people in situations of:	1.0	1.0	1.0	0.8	1.0	1.0
19.1 Motor vehicle accidents	0.8	1.0	1.0	1.0	1.0	1.0
19.2 Drowning	1.0	1.0	1.0	1.0	1.0	1.0
19.3 Mass disaster/catastrophes	1.0	1.0	1.0	1.0	1.0	1.0
19.4 Firearm and stab wounds	1.0	1.0	1.0	1.0	1.0	1.0
19.5 Asphyxiation	1.0	1.0	1.0	1.0	1.0	1.0
20. I know how to intervene in situations involving	0.8	1.0	1.0	1.0	1.0	1.0
20.1 Car accidents	0.8	0.8	1.0	0.8	0.8	1.0
20.2 Drowning	0.8	0.8	1.0	0.8	0.8	1.0
20.3 Mass disasters/catastrophes	1.0	0.8	1.0	1.0	0.8	1.0
20.4 Firearm and stab wounds	1.0	0.8	1.0	1.0	0.8	1.0
20.5 Asphyxiation	1.0	0.8	1.0	1.0	0.8	1.0
21. I know how to:	1.0	0.8	1.0	1.0	0.8	1.0
21. 1Request/call the urgent/emergency services (Fire Department and/or Mobile Emergency Care Service)	1.0	1.0	1.0	1.0	1.0	1.0
21. 2 Refer to the emergency room.	1.0	1.0	1.0	1.0	1.0	1.0
22. I know about:	1.0	1.0	1.0	1.0	1.0	1.0
22.1 Humanized reception of the family related to the cause of death	1.0	1.0	1.0	1.0	1.0	1.0
22.2 Welcoming and non-judgmental	1.0	1.0	1.0	1.0	1.0	1.0
22.3 Emotional support for victims of disasters and catastrophes	1.0	1.0	1.0	1.0	1.0	1.0
22.4 Emotional support for perpetrators of violence	1.0	1.0	1.0	1.0	1.0	1.0
22.5 Empathy	1.0	0.8	1.0	1.0	0.8	1.0
22.6 Unconditional Positive Consideration	1.0	1.0	1.0	1.0	1.0	1.0

*CVI: Content Validity Index

Discussion

The development of the "Questionnaire to Evaluate Nurses' Knowledge of Forensic Nursing in the Care of Victims and Perpetrators of Violence" was guided by strict criteria of objectivity, clarity, and relevance. These aspects guarantee the instrument's effectiveness in assessing the competencies required for forensic nursing practice, and it stands out as an innovative contribution to the field[16].

Although COFEN Competency Matrix covers the eight areas of forensic nursing practice, it does not clearly define their general and specific competencies. This lack of clarity makes it difficult to identify the activities performed by the Forensic Nurse[11]. This is why the categories in the questionnaire differ from those described in the Competence Matrix[14]. On the other hand, the phenomena assessed are complex, with multiple actions that affect different stages and phases of nursing practice. In this way, evaluation instruments become objective measurements[7] and can help to uncover gaps in knowledge that can support the identification, evaluation and intervention of Forensic Nursing competencies for Nurses.

The choice to work with the dimensions of identification, evaluation, and intervention was particularly relevant since these stages reflect the core of professional practice in Forensic Nursing. The systematic identification of subjective and objective data allows nurses to recognize victims and perpetrators of violence in an informed manner[22]. The evaluation focuses on a detailed analysis of those involved' health, social, and legal conditions. At the same time, intervention comprises actions based on scientific and ethical principles to minimize damage and ensure quality care in forensic clinical practice[23].

The items were validated using the CVI, adopting criteria of clarity, relevance, and representativeness[21]. The questionnaire was structured into seven areas adapted from the original COFEN Matrix[14], covering typologies of violence, crime, Brazilian legislation, ethics and bioethics, mental disorders, mass disasters, and interpersonal relationships. This scope reflects the complexity of forensic practice, ensuring that the instrument assesses theoretical knowledge and practical skills essential for handling forensic situations at different levels of health care[24].

After validating the questionnaire, the constituent items that reached a CVI between 0.80 and 1.00 were considered suitable for assessing critical competencies[21]. For example, the items related to Brazilian legislation, such as the Maria da Penha Law and the Statute of the Child and Adolescent, stood out for their practical relevance, considering the nurse's role in reporting and documenting cases of violence[25-26].

Although the questionnaire was initially developed for nurses working in PHC, it can be adapted and validated for application in secondary and tertiary contexts, meeting the specific needs of each level of care. In PHC, nurses play a central role in identifying and monitoring victims, helping to prevent and mitigate the consequences of violence[21].

Instruments to evaluate the competencies of Forensic Nursing are relevant due to the diversity of fields of activity[12-13], such as evidence gathering and disaster response[14]. However, these competencies may be far removed from the reality of PHC professionals. Therefore, the questionnaire must be adapted to regional specificities and the local context, ensuring that the competencies are understood and applied in a contextualized way[27].

Constructing an instrument's items and analyzing the evidence of content validity is essential to ensure that the phenomena being assessed are accurately represented[7,18]. CVI was fundamental in this process, as it evaluated the items' clarity, relevance, and representativeness, ensuring the instrument's reliability[16,21]. Using validated instruments is essential to ensure that measurements are consistent and based on robust evidence[7,16,18].

Content validity analysis is an initial stage in the psychometric validation process[7,16,18]. It is a starting point for assessing the suitability of the proposed items with the theoretical framework. Reliability and

validity analyses should complement this stage to ensure the instrument's robustness and reliability in different contexts and populations[7,18].

To ensure the instrument's consistency, complementary studies that include empirical analyses and statistical tests, such as using the Brainstorm technique and calculating Cronbach's alpha, are essential. These procedures strengthen psychometric evidence, increasing the proposed instrument's practical and scientific usefulness[16,21]. These validations are essential to consolidate it as a reliable and applicable measure in practice and research related to Forensic Nursing[12-13].

Although content validity analysis is important, further studies with other evidence of validity and reliability are needed to validate the instrument as a psychometric measure.

Study limitations

The scarcity of publications on Forensic Nursing made it impossible to compare the questionnaire with standardized instruments. The CVI analysis, conducted with five judges (the recommended minimum), may have influenced the overvaluation of items, contributing to an extensive questionnaire and a small sample, which may have affected representativeness. Future studies should, therefore, use significant samples to validate reliability and other psychometric evidence.

Contributions to practice

This study can guide researchers in developing tools to assess nurses' knowledge of forensic nursing in primary, secondary, and tertiary care. It contributes to the prior selection of competencies in broad areas, reducing the lack of clarity between general and specific competencies, and subsidizes the reformulation of academic curricula in line with the health system's demands for professionals qualified to deal with violence.

Conclusion

The conclusion is that the "Questionnaire for Assessing Nurses' Knowledge of Forensic Nursing in the Care of Victims and Perpetrators of Violence" was constructed and validated in terms of its content and is considered suitable for assessing knowledge and skills in the area.

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Authors' contribution

Conception and design or analysis and interpretation of data; drafting of the manuscript or relevant critical revision of the intellectual content; final approval of the version to be published; responsibility for all aspects of the text in ensuring the accuracy and integrity of any part of the manuscript: Souza JSR, Vilela SC. Writing of the manuscript or relevant critical revision of the intellectual content and final approval of the version to be published: Resck ZMR.

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