Original Article

Construction and validation of an instrument for Forensic Nursing and similar graduation disciplines*

Construção e validação de instrumento para disciplinas de Enfermagem Forense e similares

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ABSTRACT

Objective: to construct and validate a questionnaire for tracking disciplines and content of Forensic Nursing and similar disciplines in undergraduate courses. **Methods:** methodological study for the construction and validation of content and semantics. The items were constructed and categorized using content analysis, based on the national and international theoretical framework of Forensic Nursing, structured in three sections with dichotomous and subjective questions. Content and semantics were validated using the brainstorming technique and an 80% concordance index among the judges. **Results:** the sections were: identification of courses, of disciplines of Forensic Nursing and Violence, and contents of Forensic Nursing discipline. **Conclusion:** the Forensic Nursing Discipline and Content Supervision Questionnaire for Graduation Nursing Courses was considered easy to use and dynamic to assess the situation of Forensic Nursing and Violence-related subjects in Nursing courses at college Institutions.
Descriptors: Nursing; Forensic Nursing; Education, Higher; Validation Study; Data Collection.

RESUMO

Objetivo: construir e validar um questionário de rastreamento de disciplinas e conteúdos de Enfermagem Forense e similares em cursos de graduação. **Métodos:** estudo metodológico de construção e validação de conteúdo e de semântica. Os itens foram construídos e categorizados por meio da análise de conteúdo, com base no referencial teórico nacional e internacional de Enfermagem Forense, estruturado em três seções com perguntas dicotômicas e abertas. Realizaram-se as validações de conteúdo e de semântica adotando Índice de Concordância de 80% entre os juízes, com a técnica *brainstorming*. **Resultados:** as seções referem-se a: identificação dos cursos, das disciplinas de Enfermagem Forense e de Violência, e dos conteúdos de Enfermagem Forense. **Conclusão:** o Questionário de Rastreamento de Disciplinas e Conteúdos de Enfermagem Forense nos Cursos de Graduação em Enfermagem foi considerado viável e amplo para avaliar a situação das disciplinas de Enfermagem Forense e de Violência nos cursos de Enfermagem das Instituições de Ensino Superior.
Descritores: Enfermagem; Enfermagem Forense; Ensino Superior; Estudo de Validação; Coleta de Dados.

Introduction

Nursing is among the professional categories with the largest number of workers in the health system, and because of this, there was progress in science and technology, especially in the forensic sciences. Forensic Nursing, in addition to being a scientific discipline, not only provides care for victims, but also for the accused, the suspects, and those who are already incarcerated due to crimes related to violence[1]. Therefore, it is necessary that the formation of future nurses in Universities includes training in this field, so that they are able to attend this public. However, there are curricular imperfections for this process to be inserted in graduation courses, consequently bringing flaws in academic formation[1-2].

Since this is an emerging specialty[3], involving several interconnected areas, it is necessary to develop an instrument that can survey the contents included in the curriculum, since it is pertinent that universities have standardized content, even considering their singular aspects[4]. However, no instrument was found in literature that had this objective. Studies that whose object of research is similar, regarding the construction and validation of instruments, sought to assess the level of knowledge of students in relation to Forensic Nursing[2-5].

Psychometric instruments are of constant use in several areas, especially in health. They are tools designed to gather information on a topic of interest. The development of psychometric instruments applied to health must follow essential methodological steps to achieve satisfactory results, not only in clinical practice, but also in the scope of research[6].

Measuring instruments are widely used by nurses in their researches[7]. These instruments require the skills and mastery from researchers in the choice of the methodological framework and of the questionnaire for their research, emphasizing that they must have the ability to assess its reliability and validity[7-8].

As for the reliability and validity of the measurement instrument, researchers must base their decision on the framework used, so that they can develop items to build the instrument, justify the relevance of the questionnaire development, as well as define its target audience, so that, empirically, the instrument can be understood by its respondents[8].

When assessing the reliability of psychometric instruments, their quality of use is automatically assessed, and it is up to the researcher to select the best instrument, one that obtained satisfactory results in its validation. For these considerations, there are widely used statistical methods, such as, for example, the alpha correlation coefficient[9].

It is important to highlight the growth of research that uses Pasquali's methodological framework in the construction and validation of psychometric instruments in Nursing. This method can help to develop instruments that improve the care provided to patients. There are three validation processes that are widely used in methodological research. They are related to the theoretical framework, such as pilot or experimental tests, or statistical tests for analyzing the items[10].

For an instrument to be considered reliable and valid, the presence of evaluators is necessary for the purpose of judging the items proposed by the researchers during the content validation. In addition, the theoretical process is extremely relevant for the bibliographic basis of statistical and empirical analyzes, so that an instrument can be used[10].

Therefore, this instrument will contribute to the education in Forensic Nursing , since it can serve as a standard for universities, allowing coordinators and others who work in the teaching process to reflect on what is covered by the disciplines and curriculum dynamics regarding the discipline of Forensic Nursing and similar ones. Therefore, this study aimed to construct and validate a questionnaire for supervising disciplines and the content of Forensic Nursing and similar topics in graduation courses.

Methods

It is a methodological study aimed at the elaboration of an instrument and its content, and to carry out its semantic validation, based on a theoretical-methodological foundation[11]. In the first stage, the theoretical base was formed by the procedures for the construction of the items. For this, a literature review was carried out, which followed the integrative review method[12]. For categorization, the content analysis method[13] was used, as it is a classificatory and interpretative technique of verbal or symbolic products. The search was carried out in the following databases and journals: Biblioteca Virtual em Saúde Brasil; Portal of the Coordination for the Improvement of Higher Education Personnel; Medical Literature and Retrivial Sistem on Line; Scientific Electronic Library Online, from Google Scholar, from Google Books; specific sites: International Association of Forensic Nurses; Brazilian Association of Forensic Nursing; Portuguese Association of Forensic Nursing; Brazilian Society of Forensic Nursing; Ministry of Health; Ministry of Justice; and in universities that offer specialization courses in Forensic Nursing.

The descriptors used were: Forensic Nursing, Higher Education, Curriculum and Nursing, which were then cross researched. The studies found were diversified, that is, articles, decrees, books, theses, dissertations, and monographs, in addition to a curriculum of specialization courses, thus totaling 112 studies.

Themes emerged referring to the assessment and intervention of people who are victims of violence in its various modes, from interventions to policies for prevention and health promotion aimed at people, their relatives, and perpetrators, regarding violence and its consequences, as well as referring to forensic medical-legal care involving areas of primary care, hospital and asylum institutions, ethics and bioethics. In order to analyze the content that emerged from the themes and the construction of the items, the establi-

shed criteria used were: objectivity, simplicity, clarity, relevance, precision, variety, modality, and credibility[11].

The structure of the -administered instrument was determined in a dichotomous format. It was self-applied, had open questions, and was entitled Questionnaire for Supervision of Disciplines and Contents about Forensic Nursing in Graduation Nursing Courses. It was elaborated considering three parts: the first containing the general information of the College Institutions; the second, regarding Forensic Nursing and Violence-related disciplines when present in the curriculum dynamics, containing information on the total hours and possible contents taught; while the third section deals with the contents taught in the other subjects and complementary information, in case the coordinator wanted to include such information.

The second stage was empirical, and referred to the use of the instrument. It was defined that the target population were the coordinators of the nursing courses of public and private educational institutions. For data collection, the Google Forms tool, from Google, was used. In order to test the application and analyze the questionnaire's viability and intelligibility, the brainstorming technique[11] was used. The sampling was through convenience, and two experienced nurses were selected in the field of coordination of Nursing courses. To comply with the considerations, an 80% Consistency Index (CI) was also used[14]. The instrument was clear and easy to use, and its application lasted, on average, 30 min, when in possession of the documents.

In the third stage, the analytical phase using content and semantic validations was performed. The appearance, relevance, and importance of the items[11], according to a group of evaluators, was considered. To select the evaluators, the criteria of specialty in forensic nursing and/or experience in elaboration and validation of psychometric instruments were considered. Seven evaluators were invited, four of whom participated. The Informed Consent Form and the se-

mantic and content validation worksheet, as well as the link to the questionnaire in the Google Forms tool, were sent through email for the appearance validation. In the responses, an 80% Consistency Index (CI) was used as a parameter, for the changes suggested.

The construction and validation of the Forensic Nursing Discipline and Content Supervision Questionnaire in Graduation Nursing Courses happened between January and March 2019.

This research was approved by the Research Ethics Committee of the Universidade Federal de Alfenas, following the Resolution of the National Health Council No. 466/12. It was approved under Opinion No. 2,893,206/2018 and Certificate of Submission to Ethical Appreciation No. 97046718.0.0000.5142. The coordinators and evaluators signed the Free and Informed Consent Form electronically.

Results

Regarding the structure of the questionnaire, it was divided into three sections: the first refers to the identification of the Universities (name, city, state, public or private, duration of the course, new students per year, types of formation, period of the day and modality); the second refers to the offer, in the respective curricular grids, of the disciplines of Forensic Nursing and Violence, their contents and hours; finally, the third section refers to the contents of Forensic Nursing taught in other disciplines or similar disciplines.

As for the first section, it was suggested that a new alternative be added (9 semesters), since there are Nursing courses lasting 4 and a half years. In the second section, there was no suggestion for changes. In the third section, which dealt with the structure and items, there were pertinent suggestions that were accepted.

Due to the diversity of items or variables to be identified, regarding forensic content, these were categorized by specificity, which may involve physical, psychological, or emotional assessment and/or nursing intervention involving subcategories (1,2,3); he-

alth prevention/promotion policies and actions with subcategories (4,5,6); tertiary-level interventions (7, 8); actions related to correctional institutions (9); bioethics (10). Each of these categories involves several items as shown in Figure 1.

The instrument consisted, at first, of 165 items presented in categories. After the semantic and content validations, 74 of them were regrouped and refined according to the judges' proposals, since these items were considered to be semantic approximations. 79 items related to the contents of Forensic Nursing remained.

The groupings of accepted variables referred to the junction of assessment and intervention items, as well as promotion and prevention policies, differing only in the specifics where they were applied.

The 79 items related to the contents of Forensic Nursing were divided between the types of violence, that is, between the general items related to Forensic Nursing, (items 1 to 15; 17 to 20; 52 and 44); external causes (items 21 to 40); aggressors, whether or not they have mental and psychiatric disorders with criminal behaviors (items 41 to 48; 50 to 51; 53; 60 to 62); use of alcohol and other drugs (items 55 and 56); prison/correctional units (items 64 to 69); forensic evidence in institutional/hospital services (16; 49 and 59; 70 to 77); abortions (items 57 and 58); Medico-Legal Institute (item 63); and finally, Bioethics and ethics (items 78 and 79).

The construction and validation stages of the instrument were considered complete, since the instrument was considered reliable and valid for use. As a result, the instrument was formed by three sections: the first with nine items of institutional identification, consisting of open questions; the second refers to the presence of specific disciplines of Forensic Nursing and Violence, with two multiple response items, in addition to the description of the contents supposed to be taught in each of them; and the third section, referring to the contents taught in other disciplines related to the curriculum, in the form of dichotomous questions.

Forensic Nursing Content	Items
1. Physical, psychological, or emotional assessment and/or nursing intervention in the modalities of physical, psychological, moral, sexual, domestic/family violence, sexual assault, rape, victims of prostitution, abuse, situations of post-trauma syndrome, and violence at work.	3 to 13; 19 to 20; 27 to 28; 31 to 32; 38 to 39; 42 to 43; 46; 49 to 50; 53 to 54; 81 to 82.
2. Physical, psychological, or emotional assessment and/or nursing intervention in relation to people with the following conditions: car accidents, drowning, mass disaster, guns and knives wounds, choking situations, self-directed violence and to others, suicide attempt, violent or undetermined cause of death.	57 to 58; 61 to 62; 65 to 66; 69 to 70; 73 to 74; 85 to 86; 89 to 90; 93 to 96.
3. Physical, psychological, or emotional assessment and/or nursing intervention in relation to people with the following conditions: psychiatric and behavioral disorders in criminal situations, criminal behaviors, being under investigation of crimes, in custody, in the prison system, violent behaviors whether or not the person has psychiatric and behavioral disorders, being under the influence ora busing alcohol and/or other drugs, in compulsory hospitalizations, perpetrators with or without psychiatric and behavioral disorders.	99 to 100; 103 to 114; 107 to 108; 11 to 112; 115 to 116; 120 to 121; 136 to 137; 140 to 141; 145 to 148; 151 to 152.
4. Prevention/promotion of health policies and actions in the forms of sexual and domestic/family violence, harassment, bullying, rape, situations of post-trauma syndrome and violence at work.	21 to 22; 29 to 30; 33 to 34; 36 to 37; 40 to 41; 44 to 45; 51 to 52; 55 to 56; 83 to 84.
5. Prevention/promotion of health policies and actions for people with the following conditions: car accidents, drowning, mass disaster, gun and knife wounds, choking, violence both self-directed and to others, suicide attempt, cause of violent or undetermined death..	59 ao 60; 63 to 64; 67 to 68; 71 to 72; 75 to 76; 87 to 88; 91 to 92; 97; 129 to 130.
6. Prevention/promotion of health policies and actions for people with the following conditions: criminal situations, people with criminal behavior, patients in custody, people in prison, correctional institutions, perpetrators of violence, violent people with or without psychiatric and behavioral disorders, violent behavior, people under the influence or abusing alcohol and/or other drugs, and people in compulsory hospitalizations.	101 to 102; 105 to 106; 109 to 110; 113 to 114; 117 to 118; 122 to 123; 125; 129 to 130; 135; 138 to 139; 144; 149 to 150; 153 to 154.
7. Interventions at the hospital with forensic evidence in the investigation of occupational accidents, women in situations of abortion, care in death, preservation of forensic remains in the emergency service and referral of victims of sexual violence to specialized services.	18; 77 to 78; 126; 131 to 132; 155; 161 to 162.
8. Hospital institutional policies on clinical protocols and documentation regarding forensic expertise in its application to people who have been victims of sexual assault, documentation of forensic evidence in situations of violent death; investigation of expertise in occupational accidents, people in situations of abortion, development and evaluation of protocols in the provision of forensic care, preparation of reports and opinions that assist the judiciary, assistance and handling of confidential materials, preparation of expert reports and opinions, and preserving forensic evidences in the emergency sector.	98; 119; 124; 133 to 134; 156 to 160; 163.
9. Nursing at the Legal Medicine Institute related to the collection of biological material for exams of victims of sexual violence and DNA tests.	14 to 15; 47 to 48; 142 to 143.
10. Ethics/bioethics in nursing, regarding legislation and correctional institutions.	164 to 165.

Figure 1 – Description of the sections, with their respective items referring to the content of forensic nursing taught in other or similar disciplines in graduation nursing courses. Alfenas, MG, Brazil, 2018

Discussion

With the advance in the knowledge about the field, this study may guide other researchers who are interested in developing instruments to assess the existence or not of some content in the Nursing disciplines, as well as other areas, be them related to health, social, or human sciences. Thus, this study is viable for replication by other researches that are interested in the theme.

This study suggests that investments should be made in research that justifies the importance of the discipline in the nursing curriculum dynamics, and, when this is analyzed by the coordinators and their peers in graduation nursing courses, the use of this instrument may contribute to elucidate the importance of contents to be taught.

As for the limitations of the study, there was a lack of comparative parameters, since no similar instruments were found in national and international literature that responded to the research question presented. There are also few studies that present the analysis of curricular disciplines related to the Nursing course, or even an absence of them, in the case of Forensic Nursing. The validation process could not be done by comparing previous criteria because there is no instrument that can be considered a gold standard.

Another limitation was the extension of the measurement questionnaire, which can cause the target population to become tired or abandon it. However, it was accepted and easy to use when evaluated by peers during content and semantics validation. It was necessary to use the cost-benefit ratio, which can be explained because there are many contents that can and should be addressed in a Forensic Nursing discipline in graduation nursing courses. In this context, regarding the extension and the relevance of content, it was found that, since the subject of Forensic Nursing is specialized, some contents are more specific. However, the option to keep them was justified by the lack of a standard of content in nursing courses in Brazil.

Regarding the criteria[11] to elaborate the items or variables that will compose a measurement instrument, the simplicity criterion, which states that an item must express a single idea to avoid confusion to the respondent, was partially accepted. In this context, the suggestion of the evaluators were accepted, to group the variables related to assistance (evaluation and intervention) as well as policies (promotion and prevention). This is justified by the possibility of reducing the number of variables for the respondent, in order to avoid fatigue and withdrawal when answering the questionnaire.

Regarding the criteria of appearance, relevance, and importance, these were evaluated and considered relevant. Although the discipline of Forensic Nursing is understood as specialized[1], its content was considered appropriate for nurses in general. Other contents, such as those of the Medico-Legal Institute, expert documentation, care for aggressors, collection of biological DNA material, preservation of forensic evidences in hospital services, and instructional and correctional forensic protocols, are associated with specific specialties, since they are not yet part of nurses' routine work. Even so, they were maintained, as it is believed that these items may be part of the nursing work environment and some institution may include them in their curriculum, since there is no strict standard as to the contents appropriate to all curricular subjects, which leads to divergences of content from one institution to another.

In the semantic validation process, it is essential that there is an analysis of all items according to their target population[15]. Since this is a study in the field of graduation curricula, it is believed that the course coordinators are viable as members of the target population. Course coordinators, especially in Nursing, in addition to elaborating and participating in the construction of the Pedagogical Projects of the courses, have full knowledge about curriculum dynamics, with managerial technical skills to assume such a position[16].

It is important to note that these empirically validated psychometric instruments can be adapted

to electronic questionnaires, and can reach the ability to reach various audiences from different locations, since the internet is increasingly being used in researches in the health field, which facilitates access to participants and brings a higher result to respondents[17].

Online forms can be useful in the development of new researches, for example, in the use of free electronic tools that allow the creation of electronic forms that can then be used for evaluation purposes. This demonstrates the relevance of replacing printed questionnaires[17-18], which, for the present study, was of paramount importance in order to receive and accept the judges' opinion.

For the nursing area, the development and validation of these instruments promote changes in the care provided by nursing professionals, as well as in the development and reflections related to scientific evidence through methodological studies, which may have a positive impact both in the field of work, as well as in the development of new research[19].

Conclusion

It was possible to build and validate the Forensic Nursing Disciplines and Contents Supervision Questionnaire in Graduation Nursing Courses, which makes it possible to assess the presence of content on this theme in the curriculum of graduation nursing courses.

The structure of the questionnaire, in the case of questions (open and dichotomous), its form of application (self-applied), and the possibility of using online tools (Google Forms) enabled its effective use, given both simplicity and speed, at a low operational cost. Although the instrument can be used in printed form, this is not advisable, due to its extension, which would hinder its application.

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Collaborations

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