Integrative literature review: the initial step in the validation process of nursing diagnoses*

Revisão integrativa: etapa inicial do processo de validação de diagnóstico de enfermagem

Revisión integradora: etapa inicial del proceso de validación del diagnóstico de enfermería

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ABSTRACT

Making nursing diagnoses is the second step of the nursing process. It is a source of nursing knowledge and essential for the planning and implementing of effective nursing interventions that promote quality nursing care. Integrative literature review is a research method that allows for gathering and synthesizing available evidence about a topic. Thus, the purpose of this review was to argue that integrative literature review is the initial step in the nursing diagnoses validation process. Important aspects in conducting integrative literature reviews are presented through an example, including their contributions to refine and validate nursing diagnoses proposed by the North American Nursing Diagnosis Association International's (NANDA-I) Taxonomy II, which can guide the planning and implementation of quality nursing.
Keywords: Nursing diagnosis; Nursing research; Nursing

RESUMO

O diagnóstico de enfermagem é a segunda etapa do processo de enfermagem e pode ser considerada uma fonte de conhecimento científico para a enfermagem, tornando-se fundamental para o planejamento e implementação de intervenções eficazes que proporcionem a melhoria da assistência prestada ao paciente. A revisão integrativa é um método de pesquisa que permite reunir e sintetizar as evidências disponíveis sobre o tema investigado. Assim, o presente artigo teve como objetivo apresentar a revisão integrativa da literatura como etapa inicial do processo de validação de diagnóstico de enfermagem. Por meio de um exemplo, apresentam-se aspectos importantes na construção da revisão integrativa e as contribuições deste método para aperfeiçoar e legitimar os diagnósticos de enfermagem descritos pela Taxonomia II da North American Nursing Diagnosis Association (NANDA), contribuindo para sua capacidade de generalização e de predição, visando à proposição de diretrizes para o cuidado.
Descritores: Diagnóstico de enfermagem; Pesquisa em enfermagem; Enfermagem

RESUMEN

El diagnóstico de enfermería es la segunda etapa del proceso de enfermería y puede ser considerada como una fuente de conocimiento científico para la enfermería, haciéndose fundamental para la planificación e implementación de intervenciones eficaces que proporcionen la mejoría de la atención prestada al paciente. La revisión integradora es un método de investigación que permite reunir y sintetizar las evidencias disponibles sobre el tema investigado. Así, en el presente artículo se tuvo como objetivo presentar la revisión integradora de la literatura como etapa inicial del proceso de validación del diagnóstico de enfermería. Mediante un ejemplo, se presentan aspectos importantes en la construcción de la revisión integradora y las contribuciones de este método para perfeccionar y legitimar los diagnósticos de enfermería descritos por la Taxonomía II de la North American Nursing Diagnosis Association (NANDA), contribuyendo a su capacidad de generalización y de predicción, visando a la proposición de directivas para el cuidado.
Descriptores: Diagnóstico de enfermería; Investigación en enfermería; Enfermería

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INTRODUCTION

The Nursing Diagnosis is the second stage of the nursing process and can be considered a source of scientific knowledge for this profession, becoming essential for patient care planning. This step is valid when it actually portrays the problem inferred by nurses. Publications on nursing diagnosis validation became frequent in the middle 1990s, when a concern about perfecting and legitimizing diagnoses described by the North American Nursing Diagnosis Association (NANDA) Taxonomy and about increasing its capacity to generalize and predict was observed.

The literature includes several nursing diagnosis validation models. However, those most frequently used are the ones proposed by Fehring[1], based on the acquisition of opinions by experts to determine or not whether the defining characteristics are indicative of a diagnosis. According to the author, a literature review should be made before a validation process is performed, aiming to seek theoretical support to make the following stages effective.

The use of Evidence-Based Practice (EBP) principles to be the foundation for diagnosis decisions has been discussed in the literature[2]. EBP arose from the need to minimize the gap between scientific advances and clinical practice. This approach involves determining the problem, seeking and critically assessing the evidence available, implementing evidence in clinical practice, and assessing the results obtained. The health professional's clinical competence and the patient's preferences are also important aspects and should be considered when making a decision about health care[3].

Decision-making is key in the EBP and involves the integration among the professional's clinical ability, evidence originated from research and the patient's preferences[4]. EBP can contribute to diagnosis accuracy, once it prescribes the search for research results and the assessment of evidence found for validation of associations and the power of generalization between the manifestations shown by the patient and the nursing diagnosis attributed[2].

EBP has promoted the development of literature review methods, which mostly aim to seek, critically assess and summarize the evidence available for the issue investigated. Among these issues, systematic review, meta-analysis and integrative review stand out[5]. Systematic review is a research method that has as its general principle an exhaustive search for studies on the clinical question formulated, following a rigorous selection method, assessment of relevance and validity of studies found. According to what has been recommended, studies included in this type of review should have an experimental research design, i.e. they should be characterized as randomized controlled trials (RCT). Meta-analysis can be employed when the studies included in the systematic review show the same clinical question and population, implement and measure the intervention in the same way, and in whose preparation authors use the same research design. In meta-analysis, statistical methods to combine and gather results from multiple primary studies are used, improving result objectivity and validity[5-6].

The integrative review is a broader method of review, because it enables the inclusion of the theoretical and empirical literature, as well as of studies with different methodological approaches (quantitative and qualitative)[5]. This method's main purpose is to gather and summarize studies performed on a certain issue, drawing a conclusion from the results evidenced in each study, but analyzing identical or similar problems. The studies included in the review are analyzed in a systematic way in terms of their objectives, materials and methods, enabling the reader to analyze preexisting knowledge about the issue investigated[7]. It is a method that allows the creation of a source of current knowledge about the problem and the determination of the validity of such knowledge to be put into practice. Patterns of methodological rigor must be followed to make the integrative review, which will enable the reader to identify the characteristics of the studies analyzed, and also offer subsidies for the advancement of nursing.

In view of what has been exposed, the method of integrative review of literature, together with EBP concepts, can be employed as the initial stage in the diagnosis validation process, contributing to create a nursing diagnosis taxonomy which is useful for nursing practice.

In this way, the present study aimed to show the steps of preparation of the integrative review of literature as the initial stage of the nursing diagnosis validation process.

INTEGRATIVE REVIEW STEPS AS THE INITIAL STAGE OF THE NURSING DIAGNOSIS VALIDATION PROCESS

A total of three types of diagnosis validation have been described in the literature: Diagnostic Content Validation, Clinical Diagnostic Validation and Differential Diagnostic Validation Model[1].

Diagnostic content validation is based on the acquisition of expert opinions about the level on which certain defining characteristics are indicative of a diagnosis; the clinical diagnostic validation model is founded on the acquisition of evidence for a certain diagnosis, based on the clinical environment and directly with the patient; the differential diagnostic validation model can be employed to validate two closely associated diagnoses and to differentiate levels of occurrence of a certain diagnosis[1].

Following recommendations, an integrative review should be made as the initial stage in studies on nursing diagnosis validation. This research method has the following six distinct stages: identification of the integrative review questions or topic; sampling or search in the literature; study categorization; assessment of studies included in the integrative review; result interpretation; and summary of the knowledge evidenced in the studies analyzed or presentation of the integrative review[5,7-9].

Aiming to exemplify the use of the integrative review as the initial stage of a nursing diagnosis content validation, a random clinical practice case in a Post-Anesthetic Recovery Unit was considered. According to the nurses who work in this unit of a tertiary hospital, post-operative patients with nausea and vomit are frequently observed.

During the nursing process, gaps concerning the nursing diagnosis decision can be perceived, once NANDA Taxonomy II[10] shows few associated factors involving the patient in the post-operative period, and this diagnosis, as currently described, is aimed at patients submitted to chemotherapy. This situation exemplifies a research question, which constitutes the starting point to conduct an integrative review, aiming to identify associated factors or the defining characteristics and respective operational definitions to design a diagnostic content validation instrument.

The stages to be followed when making an integrative review are subsequently described, based on a study on the nursing diagnosis of nausea in the context of a post-operative patient[11].

1st Stage: Identification of the integrative review questions or topic

The first stage consists in the preparation of the research question about the topic established to make the integrative review and, subsequently, the definition of key words to search for studies.

The question must be clear and explicit to help to identify key words, outline the search for information, and select studies and information to be extracted[7].

Some authors consider the first stage as the reference point to conduct a well prepared integrative review[5,8-9]. The key question for the previously mentioned example was: "What are the factors associated with the nursing diagnosis of nausea in the immediate post-operative period?".

2nd Stage: Literature search or sampling

Once the topic or problem is defined, the search in the literature begins. This search must include medical and nursing references, in addition to those associated with general health fields[8]. The key element to

adequately conduct an integrative review is the exhaustive literature search. The search process includes articles found in databases, and consultation of the list of bibliographical references, theses, dissertations and textbooks[8].

Databases provide access to citations and, frequently, abstracts of studies published in the health literature. In addition, journals are forums to promote new ideas and advancements, providing the reader with a mechanism to obtain constant updates on research on several issues[2].

To perform an effective search, the nurse must know the correct way to access different electronic databases, both in terms of health terminology and search strategies. The following are examples of databases: *Literatura Latino-Americana e do Caribe em Ciências da Saúde* (LILACS – Latin American and Caribbean Literature on Health Sciences), BDEnf (*Base de Dados Brasileiras de Enfermagem* – Brazilian Nursing Databases); Cumulative Index to Nursing and Allied Health Literature (CINAHL) and PUBMED (Biomedical Literature Citations and Abstracts) (North Americans); EMBASE (Excerpta Medica) (Dutch) and COCHRANE – Systematic Reviews, which consists of reviews prepared by the Cochrane Review Groups and provides high-quality, updated information, and whose headquarters are located in the United Kingdom.

The literature search stage in an integrative review must be clearly documented, including the key words used, databases consulted, search strategies, and inclusion and exclusion criteria established to determine relevant primary research[5,7].

Selection of studies to be included in the integrative review is an important task, because it is a critical indicator to assess the power of generalization and reliability of conclusions. Omission of such procedure may be the main threat to review validation[12].

As regards the example shown, a search can be conducted in the PUBMED databases, using the key words "postoperative nausea and vomiting" and "risk factors", considering, for example, the following inclusion criteria: studies performed in human beings, aged older than 15 years; published in the last five years; and written in English, Portuguese and Spanish.

The articles which are not available in their entirety in the databases can be located through university library archives, the *Coordenação de Aperfeiçoamento de Pessoal de Nível Superior* (CAPES – Coordination for the Improvement of Higher Education Personnel) journal website, and also the *Serviço de Comutação Bibliográfica* (COMUT – Bibliographical Exchange Service), provided by the main higher education institutions.

After reading titles and abstracts, articles must be selected, as they include factors associated with nausea in the post-operative period. Other databases must be

used, adapting key words to the search procedure. Aiming to achieve the objectives proposed, it is important that studies be analyzed in their entirety and the search be as complete as possible.

3rd Stage: Study categorization

This stage involves the preparation or use of an already validated data collection instrument, which aims to extract key information from each article selected[8]. The instrument adopted must include some basic items: study identification, introduction and objectives (critical assessment and study data), methodological characteristics (research design analysis, sample, data collection technique and data analysis), results (description and critical analysis of results, associated factors found, including specific aspects of the topic studied, such as the possible factors associated with the diagnosis in question), conclusions (description, critical analysis and level of evidence on which the study is found, identifying, in the example shown, the strength of evidence in the association of factors identified and the diagnosis studied). The Brazilian literature shows two examples of instruments to extract data from articles included in the review[11,13].

To facilitate the access to and recovery of information, articles can be organized and categorized in bibliographical software programs or files[7]. In addition, the author emphasizes that the organization of articles in chronological order allows for knowledge about the historical evolution of the phenomenon or problem studied[7].

4th Stage: Assessment of studies included in the integrative review

The stage of analysis of quality of primary research included in an integrative review is a complex activity, requiring researcher's time and knowledge. In this stage, the articles selected are critically analyzed according to authenticity criteria, methodological quality, relevance of information and representativeness[5].

Study quality assessment is crucial for the scientific integrity of the integrative review. Some questions must be considered to guide the critical analysis of research: What is the research question?; Why this question?; Why is this question important?; What were the previous research questions?; Is the study methodology adequate?; Are individuals selected for the study suitable? What does the research question answer?; Is the answer correct?; What future research is necessary?[8].

As regards the example mentioned, after exhaustive reading of the articles selected and the extraction of main data with the use of the instrument adopted, charts can be made with detailed information about each article, enabling their subsequent analysis. Preparation of these charts allows for a summary of each article, providing the reviewer with a regular analysis of results and conclusions evidenced in each article.

5th Stage: Result interpretation

This stage is similar to the discussion of results in primary studies. It consists in the comparison between data evidenced in the articles included in the integrative review and the theoretical knowledge[5].

Thus, in this stage, the researcher will be able to make suggestions for the nursing practice, discuss political or practical impact conditions, question results in relation to theories, and make recommendations for future reviewers[9].

In the example proposed, other factors associated with nausea, in addition to those described by the NANDA[10], can be found in the literature, such as: female sex, non-smokers, adult age, previous history of nausea and vomit and nausea caused by motion, type of surgery, administration of opioids in the intra- and post-operative periods, and use of volatile anesthetics and nitrous oxide[11].

The articles must be classified according to the level of evidence. Melnyk and Fineout-Overholt's proposal[14] may be adopted, for example, as described on Chart 1.

Nursing does not have a sufficient amount of studies with strong evidence yet, i.e. a randomized controlled trial, considering the gold standard in EBP[15]. However, the absence of strong evidence does not make decision-making based on evidence impossible; what is required is the best evidence available and not the best evidence possible[2].

6th Stage: Summary of the knowledge evidenced in the articles analyzed or presentation of the integrative review

The integrative review must include explicit details of primary research to enable readers to have conditions to assess the adequacy of procedures performed, as well as to define possible methodological limitations when making the review[5].

In the above mentioned example, the creation of the integrative review enabled the identification of evidence to judge the associated factors and to identify other factors of the nursing diagnosis of nausea, which must be investigated and validated using validation studies[11].

From the identification and definition of associated factors and defining characteristics, an instrument can be designed to be submitted to the specialist nurses' appreciation[1] and, as a result, enable the diagnosis content validation process to continue.

In this way, the results found when making the integrative review will help to broaden the topic studied,

Chart 1 – Classification of levels of evidence[13]

Level	
I	Evidence obtained from systematic review or meta-analysis of all relevant randomized controlled trials or from clinical directives based on systematic reviews of randomized controlled trials.
II	Evidence obtained from at least one well designed randomized controlled trial.
III	Evidence obtained from well designed trials without randomization
IV	Evidence obtained from well-designed cohort and case-control studies
V	Evidence obtained from systematic review of descriptive and qualitative studies
VI	Evidence obtained from a single descriptive or qualitative study
VII	Evidence obtained from the opinion of authorities and/or from specialist committee reports

providing the nurse with scientific knowledge to follow the remaining stages of the nursing diagnosis validation process.

FINAL CONSIDERATIONS

The integrative review research method, used as the initial stage in nursing diagnosis validation studies, can be employed as an important instrument to improve and guide care given to the patient, based on scientific knowledge. The improvement of NANDA Taxonomy II is a challenge for researchers, professors and nurses. Thus, these professionals must perform based on

evidence resulting from research to legitimize the elements that are included in this Taxonomy and, consequently, enable the implementation of care directives for the clinical practice, whose purpose is to improve nursing care quality.

The nurse needs to develop competencies associated with the capacity to critically analyze the context of practice, turning their question into a research topic. To achieve this, they need to have knowledge about several sources of information, research methodology, epidemiology and statistics, in addition to strategies to use the research results found, thus contributing to nursing as science and also to practical social nursing.

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