

CLINICAL VALIDATION OF NURSING DIAGNOSES: LITERATURE REVIEW

Validação clínica de diagnósticos de enfermagem: revisão de literatura

Validación clínica de diagnósticos de enfermería: revisión de literatura

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ABSTRACT

Introduction: It is noticed the need to identify in the literature the methods used in the clinical validation research of nursing diagnoses. **Objective:** Identify which statistical methods are most used in the clinical validation studies of nursing diagnoses. **Method:** It was decided to follow the steps described by Whittemore for literature review. The search was made in the Higher Education Personnel Improvement Coordination Journals Portal. **Results:** The prevalence of diagnostic accuracy studies with latent class analysis is observed. **Conclusions:** Accuracy studies are a method capable of correctly classifying individuals with or without a nursing diagnosis. The analysis of latent classes has been used by several researchers of the current theme. **DESCRIPTORS:** Validation Studies; Nursing diagnosis; Nursing research; Standardized nursing terminology; Nursing process.

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RESUMO

Introdução: Percebe-se a necessidade de identificar na literatura quais os métodos utilizados nas pesquisas de validação clínica de diagnósticos de enfermagem. **Objetivo:** Identificar quais os métodos estatísticos mais utilizados nos estudos de validação clínica de diagnósticos de enfermagem. **Método:** Optou-se por seguir as etapas descritas por Whittemore para revisão de literatura. A busca deu-se, através do Portal de Periódicos da Coordenação de Aperfeiçoamento de Pessoal de Nível Superior. **Resultados:** Observa-se a predominância de estudos de acurácia diagnóstica com análise de classes latentes. **Conclusões:** Estudos de acurácia constituem um método capaz de classificar corretamente os indivíduos com ou sem um diagnóstico de enfermagem. A análise de classes latentes tem sido utilizada por vários pesquisadores da temática nos dias atuais.

DESCRIPTORIOS: Estudos de validação; Diagnóstico de enfermagem; Pesquisa em enfermagem; Terminologia padronizada em enfermagem; Processo de enfermagem.

RESUMEN

Introducción: Se percibe la necesidad de identificar en la literatura cuáles son los métodos utilizados en las investigaciones de validación clínica. **Objetivo:** Identificar qué métodos estadísticos más utilizados en los estudios de validación clínica de diagnósticos de enfermería. **Método:** Se optó por seguir las etapas descritas por Whittemore para revisión de literatura. La búsqueda se dio en el Portal de Revistas de Coordinación de Mejoramiento de Personal de Educación Superior. **Resultados:** Predominancia de estudios de exactitud diagnóstica con análisis de clases latentes. **Conclusiones:** Estudios de acuracia constituyen un método capaz de clasificar correctamente a los individuos con o sin un diagnóstico de enfermería. El análisis de clases latentes ha sido utilizado por varios investigadores de la temática en los días actuales.

DESCRIPTORIOS: Estudios de validación; Diagnóstico de enfermeira; Investigación en enfermeira; Terminología normalizada de enfermeira; Proceso de enfermeira.

INTRODUCTION

Nursing diagnostics studies began in 1973 when a group of 100 (one hundred) nurses from the United States and Canada attended the First National Conference on Classification of Nursing Diagnoses in St Louis, Missouri. This group, called the National Conference Group, organized the first list of human responses, which served as the basis for the current list of NANDA-I (NANDA International) approved nursing diagnoses.¹

The literature points out some traditional models of validation of nursing diagnoses. In these models, basically three steps are described:

1. Expert Content Validation: A literature review is recommended to provide scientific support to the defining characteristics of nursing diagnosis, followed by expert opinion on these characteristics.²

2. Clinical Validation: It is based on obtaining evidence for the existence of a particular diagnosis from the actual clinical setting. The model uses an approach with two clinical experts making the observations and evaluations. While the modified model could be used to obtain clinical information directly from the subject-patient.²

The approach chosen will depend on the nature of the diagnosis tested. If the diagnosis involves a more cognitive or affective response, the patient's direct approach would probably be the best. If the nature of the nursing diagnosis relates to performance or physiology, a direct observation approach would be appropriate.²

3. Differential diagnosis validation: A model used to validate the differences between two closely related diagnoses or to differentiate the levels of a given diagnosis.²

It is noted the need to identify in the literature which would be the validation methods currently used in clinical validation research of nursing diagnoses.

Thus, it aims to: identify which statistical methods are most used in clinical validation studies of nursing diagnoses.

METHOD

Reviewing scientific literature on a given subject allows the researcher to identify what is known as the state of the art of a given phenomenon.³

We chose to follow the five steps of the literature review: identification of the research problem, literature search, data evaluation, data analysis and presentation of results.⁴

1. Identification of the research problem: What are the most commonly used methods for validating nursing diagnoses, in which there was investigation in clinical practice?

2. Literature search:

Occurred on March 5, 2019, in the Medical Literature and Retrieval System Online (MEDLINE) databases via PUBMED, Latin American and Caribbean Health Sciences Literature (LILACS), and Cumulative Index to Nursing and Allied Health Literature (CINAHL), through the CAPES Journals Portal (Higher Education Personnel Improvement Coordination).

Exclusion criteria were: literature review article, content validation, studies on nursing interventions and outcomes, case studies, differential validation of diagnoses, letter to the editor and unpublished theses and dissertations.

The following advanced search strategy was used:

- PUBMED: (clinical validation [Title / Abstract] OR validation studies [Title / Abstract]) AND (nursing diagnoses [All Fields] OR nursing diagnosis [All Fields] OR nursing diagnosis [All Fields] OR nursing diagnostics [All Fields]) AND ("03/07/2014" [PDat]: "2019/03/05" [PDat] AND "humans" [MeSH Terms])

- LILACS: (ab: (clinical validation)) OR (ab: (validation studies)) AND (tw: (nursing diagnos *)) AND (instance: "regional") AND (la :("en" OR "en" OR "es"))

- CINAHL: S1 Clinical validation (AB summary) OR validation studies (MH exact subject heading). S2 Nursing diagnos * (AB resumen). Search History: You have selected S1 and S2, search with AND.

3. Data evaluation:

The evaluation was primarily by reading the titles and abstracts, thus eliminating duplicate articles in more than one database and retrieving the articles in full.

From the total of articles identified in the databases PUBMED (16), LILACS (63), and CINAHL (63), 36 studies were selected after reading the abstract, from which 12 were

repeated, among which 24 were selected. whole. After reading the full text, the final study sample consisted of 17 articles.

4. Data analysis:

The studies were classified according to the level of scientific evidence using the scale developed by the Oxford Center for Evidence Based Medicine. According to this scale, the methodology used to develop the study will determine its degree of recommendation and level of evidence. The degree of recommendation is classified as A, B, C or D, where grade A has the highest value.⁵

Still in this stage, the sample was characterized by simple descriptive statistics with distribution by year of publication, databases, country of publication and method used for data analysis.

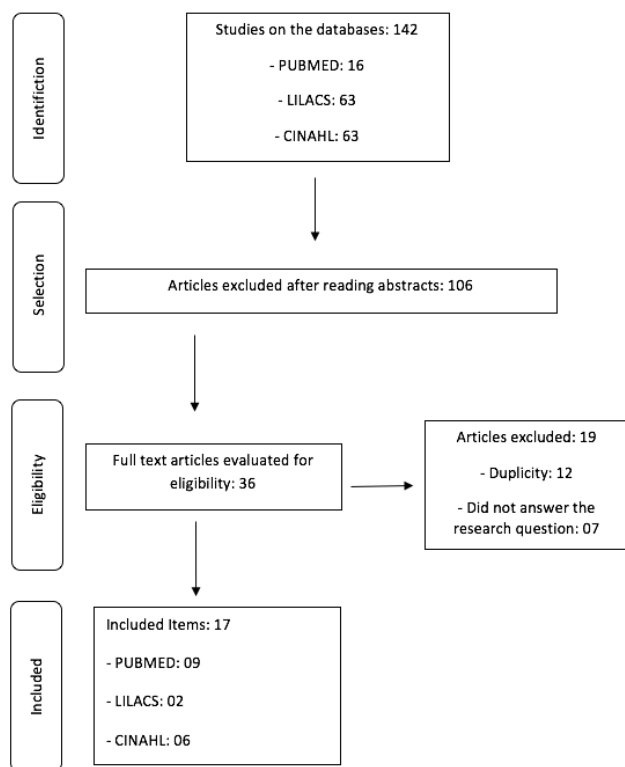
Subsequently, an exhaustive reading was performed, seeking to understand the methodology employed by the study authors for data analysis.

5. Presentation of results:

In this last stage of analysis of the publications, the evidence obtained in the studies included in the review was analyzed and synthesized, compared with that found in other reference publications.

Figure 1 illustrates the article selection process as recommended by the PRISMA group.⁶

Figure 1 - Flowchart of selection of articles for review. Rio de Janeiro, RJ, Brazil, 2019.



RESULTS

Table 1 presents the bibliometric profile of the 17 studies that answered the research question.

Table 1 - Distribution of studies according to country, year of publication and statistical approach.

Variable	n (%)
Country	
Brazil	11 (64,70)
Portugal	03 (17,64)
Czech Republic	01 (5,88)
Slovakia	01 (5,88)
Colombia	01 (5,88)
Year of publication	
2018	04 (23,52)
2017	03 (17,64)
2016	08 (47,05)
2015	01 (5,88)
2014	02 (11,76)
Statistical approach	
Diagnostic accuracy study and latent class analysis	06 (35,29)
Study of diagnostic accuracy and accuracy measures	03 (17,64)
Fehring Model	04 (23,52)
Fehring model and accuracy measurements	02 (11,76)
Diagnostic Prevalence	02 (11,76)
TOTAL	17 (100)

Source: made by the author

The country with the largest number of publications was Brazil, with 11 (64.70%) articles published by Brazilian researchers. During 2016, eight articles were published (47.05%) addressing the researched theme.

Among the 17 articles analyzed, there is a predominance of diagnostic accuracy studies with analysis of latent classes for the validation of nursing phenomena, comprising six (35.29%) studies found in this research.

Fehring's clinical validation model was used in six studies, and in two studies it is developed associated with the determination of diagnostic accuracy measures.

The studies were classified as recommendation grade B and level 2C evidence according to the scale developed by the Oxford Center for Evidence Based Medicine, which represents observation of therapeutic results and / or clinical outcomes.

DISCUSSION

Nine studies used the accuracy method⁷⁻¹⁵ for clinical validation of the studied phenomena. Of these, six (35.29%) used the latent classes analysis as a statistical approach⁷⁻¹² and the other three (17.64%) used the accuracy measures.¹³⁻¹⁵

Accuracy represents the ability of a given test to correctly point out whether or not an individual has the disease. Accuracy studies of nursing diagnoses constitute a method capable of correctly classifying individuals with and without a given nursing diagnosis.¹⁶

The diagnostic accuracy measures often used in accuracy studies are: sensitivity and specificity, positive and negative predictive values, positive and negative likelihood ratio, area under the ROC curve, Youden index, and diagnostic odds ratio.¹⁶

The literature points out that new methods of clinical validation of nursing diagnoses have been proposed. These methods include advanced statistical techniques, among which are diagnostic accuracy studies¹⁷, which corroborates the results found.

Diagnostic accuracy measures were also used in association with Fehring's clinical validation model in two studies by Portuguese researchers.¹⁸⁻¹⁹

The clinical validation method proposed by Fehring is very characteristic in diagnostic research.²⁰ This reference is considered by some researchers as complex, but it is quite reliable as long as its guidelines are respected at each validation stage.²¹

Fehring's framework for clinical validation aims to determine the minor characteristics (score between 0.50 and 0.75) and major characteristics (score above 0.75). Features with scores below 0.50 are discarded from the study. What can be observed in the four studies that used this methodology.²²⁻²⁵

Even with some limitations several studies have been developed through it and many are still being developed, which can be observed in the retrieved publications.

Nursing diagnosis prevalence studies contribute positively to nursing care practice, as can be observed in the two prevalence studies found.²⁶⁻²⁷ They aim to identify the most common nursing diagnoses in a given population and the most common clinical indicators.²⁸

They contribute to the effective planning of interventions by providing adequate care and providing positive results, as well as assisting in the nurse's diagnostic inference through the safety and speed of "estimating the chances of an individual having the diagnosis in the presence of a certain characteristic."^{28: 447}

CONCLUSION

New methods of clinical validation of nursing diagnoses have been proposed and among them are accuracy studies that constitute a method capable of correctly classifying individuals with or without a nursing diagnosis.

There is concern about methodological rigor and the use of statistical analyzes in recent clinical validation studies of nursing diagnoses. The analysis of latent classes has been used by many researchers of the subject today.

Despite being a validation model considered complex, Fehring's reference is still used today, but some authors prefer to associate a statistical analysis with it.

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